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Ray of Hope Seen Through Proration

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

Effect of Big Increase in Crude Oil Production Somewhat offset by Possibility of Action at Seminole.

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

Offsetting an average daily increase of more than 40,000 barrels in the production of crude oil in the United States last week, a ray of hope in the overproduction situation is seen in the decision of operators of the Seminole Field in Oklahoma to consider the matter of prorating production there. It seems to be the general opinion such action is practically the only step left if the output of that area is to be limited in any way.

With that area of Oklahoma producing more than 500,000 barrels of 40 gravity crude daily and the peak not yet in sight, there being 532 wells drilling in the area, and estimates as to the production of the field at the close of this year ranging from 300,000 barrels daily upward, it is not hard to visualize the effect upon the entire petroleum industry if Seminole is permitted to produce at capacity. Proration of production or some other such action must be taken at Seminole if the industry as a whole is to avoid further price readjustments this fall. Such readjustments, naturally, would place the greatest burden upon the small producer in the old settled fields. Such producers, even at this time, are unable in many instances to operate their properties at a profit.

Another increase of 8,000 barrels daily was registered in West Texas, indicating again no substantial decrease in output can be expected from the remainder of the country to offset the big gains at Seminole. The Texas Panhandle continues to decline as operators there mark time until there is a greater demand for Panhandle crude.

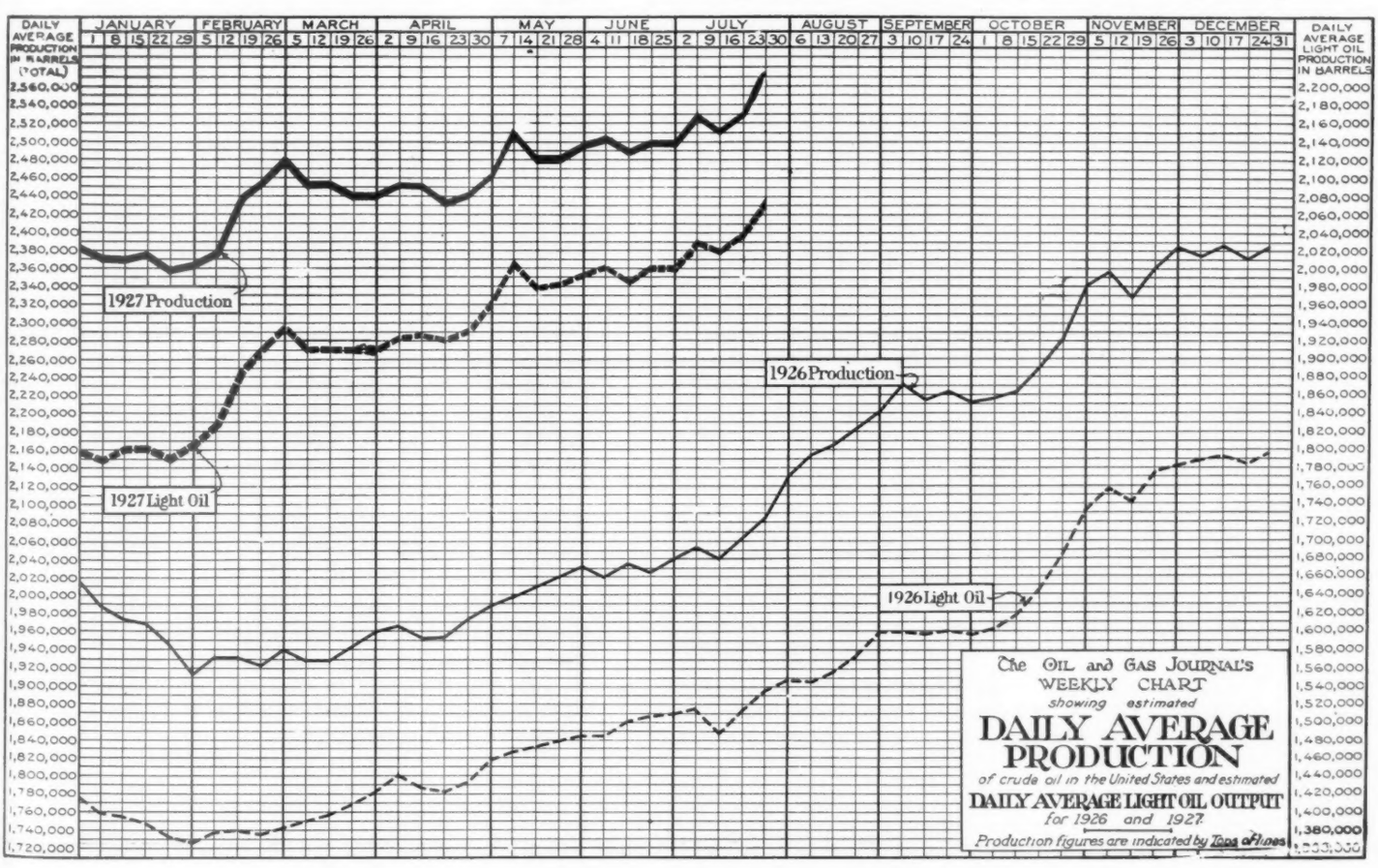
The next two weeks is the most important period in recent history of the petroleum industry. Upon what is done during that time regarding the Seminole situation largely depends what producers and refiners throughout the country may expect during the remainder of this year in the way of prices for their products.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended July 23, and a comparison with the previous week follows:

	July 23		July 16	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	20,055	.....	20,015	.....
Burbank	39,915	.....	39,840	.....
Other Osage Fields	30,405	.....	30,505	.....
Cushing and Shamrock	21,420	.....	21,420	.....
Bristow and Eastern Bristow	26,215	.....	26,210	.....
Cromwell	12,440	.....	12,745	.....
Garber	11,585	.....	11,630	.....
Blackwell-Braman	9,995	.....	10,195	.....
Seminole	493,910	.....	461,510	.....
Wewoka	19,755	.....	18,315	.....
Northern Miscellaneous	113,815	.....	113,525	.....
Southern Fields	66,210	.....	66,180	.....
Total Oklahoma	865,720	.....	832,090	.....
North Louisiana	48,165	9,720	46,335	9,725
Arkansas	23,410	86,125	23,285	87,030
North Central Texas	150,695	.....	151,290	.....
West Texas	141,079	.....	132,815	.....
Texas Panhandle	110,375	.....	114,255	.....
East Central Texas	33,056	.....	33,277	.....
Kansas	107,310	.....	108,050	.....
Total Mid-Continent Area	1,479,810	95,845	1,441,397	96,755
Gulf Coast	.....	145,240	.....	142,405
Southwest Texas	.....	32,065	.....	31,625
Eastern	111,750	.....	111,500	.....
Rocky Mountain Area	88,625	.....	85,484	.....
California—				
Santa Fe Springs	41,000	.....	40,500	.....
Long Beach	91,000	.....	91,000	.....
Torrance	6,000	17,000	6,000	17,500
Huntington Beach	70,000	.....	71,000	.....
Dominguez	15,500	.....	15,500	.....
Rosecrans	9,000	.....	9,000	.....
Inglewood	20,000	13,000	20,500	13,000
Ventura Avenue	37,000	.....	37,500	.....
Seal Beach	59,000	.....	59,500	.....
Remainder of State	55,000	186,000	55,000	186,000
Total California	404,000	216,000	405,500	216,500
Total United States	2,084,185	489,150	2,043,881	487,285
Grand Total	2,573,335		2,531,166	

→ **Total Increase, 42,169 Bbls.; Light Oil Increase, 40,304 Bbls.** ←



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Refinery Section Starts on Page 226

Ray of Hope Seen Through Proration

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

Effect of Big Increase in Crude Oil Production Somewhat offset by Possibility of Action at Seminole.

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

Offsetting an average daily increase of more than 40,000 barrels in the production of crude oil in the United States last week, a ray of hope in the overproduction situation is seen in the decision of operators of the Seminole Field in Oklahoma to consider the matter of prorating production there. It seems to be the general opinion such action is practically the only step left if the output of that area is to be limited in any way.

With that area of Oklahoma producing more than 500,000 barrels of 40 gravity crude daily and the peak not yet in sight, there being 532 wells drilling in the area, and estimates as to the production of the field at the close of this year ranging from 300,000 barrels daily upward, it is not hard to visualize the effect upon the entire petroleum industry if Seminole is permitted to produce at capacity. Proration of production or some other such action must be taken at Seminole if the industry as a whole is to avoid further price readjustments this fall. Such readjustments, naturally, would place the greatest burden upon the small producer in the old settled fields. Such producers, even at this time, are unable in many instances to operate their properties at a profit.

Another increase of 8,000 barrels daily was registered in West Texas, indicating again no substantial decrease in output can be expected from the remainder of the country to offset the big gains at Seminole. The Texas Panhandle continues to decline as operators there mark time until there is a greater demand for Panhandle crude.

The next two weeks is the most important period in recent history of the petroleum industry. Upon what is done during that time regarding the Seminole situation largely depends what producers and refiners throughout the country may expect during the remainder of this year in the way of prices for their products.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended July 23, and a comparison with the previous week follows:

	July 23		July 16	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	20,055	.....	20,015	.....
Burbank	39,915	.....	39,840	.....
Other Osage Fields	30,405	.....	30,505	.....
Cushing and Shamrock	21,420	.....	21,420	.....
Bristow and Eastern Bristow	26,215	.....	26,210	.....
Cromwell	12,440	.....	12,745	.....
Garber	11,585	.....	11,630	.....
Blackwell-Braman	9,995	.....	10,195	.....
Seminole	493,910	.....	461,510	.....
Wewoka	19,755	.....	18,315	.....
Northern Miscellaneous	113,815	.....	113,525	.....
Southern Fields	66,210	.....	66,180	.....
Total Oklahoma	865,720	.....	832,090	.....
North Louisiana	48,165	9,720	46,335	9,725
Arkansas	23,410	86,125	23,285	87,030
North Central Texas	150,695	.....	151,290	.....
West Texas	141,079	.....	132,815	.....
Texas Panhandle	110,375	.....	114,255	.....
East Central Texas	33,056	.....	33,277	.....
Kansas	107,310	.....	108,050	.....
Total Mid-Continent Area	1,479,810	95,845	1,441,397	96,755
Gulf Coast	.....	145,240	.....	142,405
Southwest Texas	.....	32,065	.....	31,625
Eastern	111,750	.....	111,500	.....
Rocky Mountain Area	88,625	.....	85,484	.....
California—				
Santa Fe Springs	41,000	.....	40,500	.....
Long Beach	91,000	.....	91,000	.....
Torrance	6,000	17,000	6,000	17,500
Huntington Beach	70,000	.....	71,000	.....
Dominguez	15,500	.....	15,500	.....
Rosecrans	9,000	.....	9,000	.....
Inglewood	20,000	13,000	20,500	13,000
Ventura Avenue	37,000	.....	37,500	.....
Seal Beach	59,000	.....	59,500	.....
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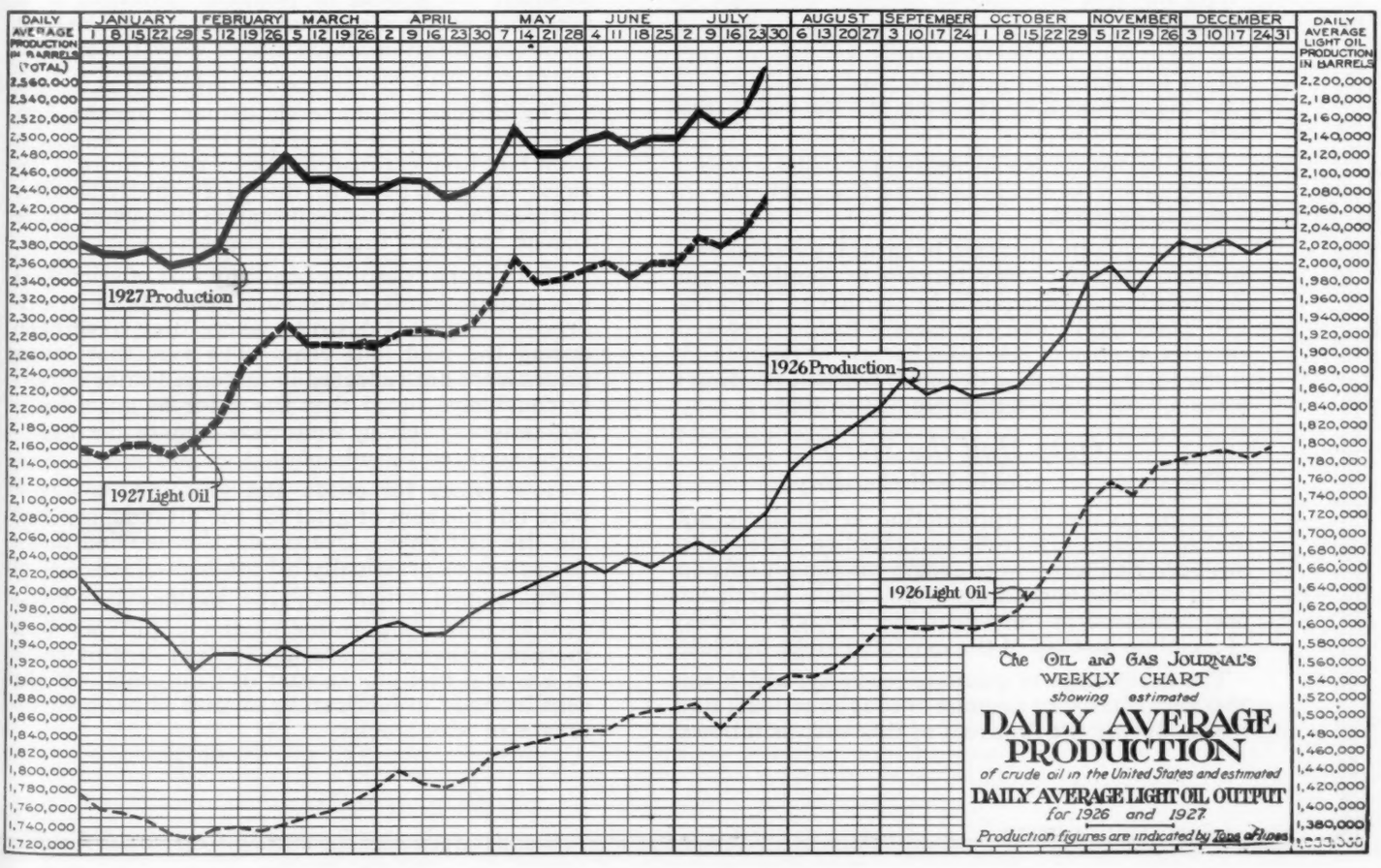

Developments of Past Six Month

By W. T. Anderson

The oil industry made history during the first half of 1927. And that is about all it did make.

With the highest rate of consumption on record it was getting and is still getting the lowest prices for gasoline of any six-months period since 1914-15.

The explanation as usually given is the overproduction at Seminole. This is putting the cart before the horse.

The real cause is the industry's own marvelous increase in productive efficiency through the use of the air lift.

A year ago the air or gas lift was little more than a theory. Its first application on a large scale was in Seminole. Its results have been as upsetting to the industry as the development of the cracking process in the refining branch.

In each instance the industry developing these wonderfully more efficient methods has found itself at the outset very much in the predicament of the fabled personage who evoked a genii he could not control.

Each has played a large part in producing the situation in which the industry finds itself today.

The increase in gasoline demand indicated by refinery shipments during the first five months of this year was 10,699,000 barrels, or 9.2 per cent but in the same period there was an increase in gasoline produced by cracking of 5,584,000 barrels or 15.8 per cent.

In other words, the increase in cracked gasoline would have taken care of more than half the increase in demand.

Add to this the increase in natural gasoline production, due of course, largely to Seminole and Panhandle and new pools in Southern California, 2,907,000 barrels, and you have a total increase in gasoline supply of 8,491,000 barrels or 80 per cent of the total increase in demand, without needing a barrel of crude more than we had in 1926.

Only Half the Story

This, however, is only half the story.

Owing to the overproduction at Seminole and the consequent low crude and gasoline prices there has been no incentive to secure maximum efficiency in refinery operations which since March has been reflected in downward percentage recovery of gasoline instead of the expected large increase.

The percentage of gasoline recovery, which was 38.6 per cent as an average throughout 1926, fluctuated during the first half of this year as follows: January, 39.9 per cent; February, 39.5 per cent; March, 40.3 per cent; April, 39.6 per cent, and May, 38.2 per cent.

Had there been the normal price incentive for cracking, the recovery percentage, including natural gasoline, would have been nearer 43.5 per cent, which would have provided for the total increase in gasoline demand without running to stills one barrel more than a year ago.

That was the industry's situation without the injection of Seminole into the problem.

Seminole in the past 12 months added 75,000,000 barrels to the production of crude, or one-tenth of what was the total production of the United States only two years ago. And Seminole, be it remembered, is light oil.

Both these results, as has been said, were the direct outcome of the industry's own increase in efficiency which has culminated in a double overproduction, of crude and refined products, and a corresponding decline to starvation prices all along the line.

Cheapness and Consumption

Incidentally, as touching the price of gasoline so often the subject of political agitation, it is noteworthy that bargain prices have had no effect upon consumption which shows only the normal increase calculated from year to year.

The increase in domestic demand for the first five months of the year was 11.2 per cent, just what had been estimated; the increase in total demand being 9.3 per cent, due to a slightly smaller increase in export demand than in 1926 when there was an abnormal increase in exports.

Had cheaper gasoline been any sort of stimulant to consumption it would surely have been in evidence with prices down to where they have been during the past half year. The fact that lower prices were not reflected in increased sales is fairly conclusive proof that the price of gasoline is not seriously felt by motorists despite the hullabaloo so often raised about it.

Low prices for crude and gasoline, however, were not the sum of grief for the oil industry during the half year. Overproduction carried down the prices of practically all other products.

The industry had to carry, besides a 13.2 per cent increase in gasoline stocks, a 16.1 per cent increase in kerosene stocks; 24.9 per cent increase in gas and fuel stocks east of California, 4.6 per cent increase in lubricating oil and 38 per cent increase in wax stocks.

Foreshadow Changes in Industry

The total liquid stocks of crude and refined products on June 1 was 558,460,000 barrels, the greatest on record, and an increase of 26,929,000 barrels over the past year. This was a gain of 5.6 per cent over the same period last year and an increase of 7.5 per cent over the stocks on January 1.

Other Losses Besides Prices

Besides the loss in low prices the industry is the poorer by decreased recovery of gasoline than would be possible in normal conditions and by the expense of carrying vastly increased stocks of all products as well as crude.

So much for the operations of the industry during the first half of the year. But in another aspect it has a brighter record.

For the first time in its history, its leaders have, within the past six months, deliberately come together seeking through co-operation and counsel to solve its chief difficulties.

The movement for agreement at Seminole will be the red letter event in the oil history of 1927. Whether it leads to what has been hoped for there will be secondary to the oil historian of the future compared to its significance as the initial movement of a revolutionary reform in the industry.

This significance was brought out in the address of the general counsel of the American Petroleum Institute at the Cuba, N. Y., commemoration when he indicated that the leaders of the industry are looking much further than Seminole and working on plans that will lead to effective co-operation in meeting such crises in the future.

Seminole has been an education for the industry and for the public as to the need for such co-operation and as to the difficulties in the way of securing it under existing methods and customs.

Present Limitations

It was quite as important to learn through actual demonstration the limitations of an effort under existing conditions as to attempt to frame reforms.

Seminole has shown what is needed and the next step will be to apply the experience thus obtained to perfecting preventive measures for the future.

It is indicated that revolutionary changes may be necessary, changes in habits and customs rooted in long usage which can be possible only through the fullest publicity educating the industry and the public as to the necessity for the innovations.

Secretary Hoover's advice to the industry that it must "do business with glass pockets" is repeated by Secretary Welch's statement that a problem of this size, the greatest ever attempted to be solved by any industry in America, cannot be solved under a bushel.

The present overproduction of oil, he says, may be the crisis "which will enable the oil industry to break its previous habits and to take on a new psychology which in the beginning may look like insane confusion but which will lead to new grooves and new practices."

"The hour," he adds, "has struck when every producer of oil can well ask himself whether he does not owe some obligation to his neighbor as well as to himself, whether there may not be both dividends and profits in giving a practical application of the Golden Rule to the production of oil."

Most Significant Development

That the industry is approaching its problems in that spirit is the most significant development of the past six months. That the American Petroleum Institute is working upon what are admitted to be necessary though revolutionary changes is an evidence of practical progress.

Seminole may have been a blessing in disguise. It may have been the sledge-hammer blow required to awaken and unite the industry in the study of its problems, not as the problems of this company or of that but of the industry as a whole.

There can be no question of the ability of the industry to solve these problems of management as effectively as it has increased its efficiency in production and manufacturing far beyond what imagination could have dreamed a few years ago.

The only question was the education of the industry and of the public to the need for the obvious remedy, the fullest and freest co-operation within the industry with the approval of Government and public.

Seminole has served that purpose, showing once more the truth of the old saw that every cloud has a silver lining.

The six-months period of depression through which the industry has been passing will not have been without compensation if out of it there comes a resolute determination to prevent a recurrence of such conditions and a definite plan for prevention.

With that prospect before us the industry can the better endure the ills of the moment, encouraged with the hope for a brighter day under newer and better conditions which will make another Seminole impossible.

The developments of the next six months should go far towards putting the industry upon a stable basis, satisfactory alike to the industry and to the public it serves so well.

Proration Would Solve Chief Problem

Unless Production in Seminole Area is Curtailed, Industry is Confronted with Further Price Readjustments

By Andrew M. Rowley

Proration of production in the Greater Seminole area of Oklahoma, if feasible at this time, would solve the chief problem involved in the crude oil overproduction situation of the United States. It would result almost immediately in a more nearly balance of supply and demand throughout the country. It would cause a quick return to almost normal conditions in the Mid-Continent area where the industry should be removing oil from storage instead of adding to stocks at this period of the year. And, such action now would go a long way towards preventing a further reduction in the prices of crude—a condition confronting the industry if Seminole is permitted to produce to its capacity during the remainder of this year.

On Monday of this week the greater Seminole area produced 512,647 bbls. of crude. If production were prorated and the wells permitted to produce just 60 per cent of their capacity, the output of the area would have been 307,522 bbls., or a reduction of 205,125 bbls. daily. The production of crude oil in the entire United States, in excess of requirements, has been estimated at approximately 250,000 bbls. daily. Prorating the output of wells in the Seminole area would almost wipe out this excess of production.

Affects All Oil Fields

Seminole production is a vital factor in the welfare of every oil field in the country because that crude, averaging 40 degrees gravity, has been sent to refineries as quickly as possible, while crude from other fields, which normally would have been purchased and used in these refineries, has had to hunt other markets or be stored. Price reductions have been made in fields throughout the United States because of the flood of Seminole crude as the output of this Oklahoma area has taken the place of crude of less high gravity with the result that with a lessened demand, prices have been reduced.

Reducing the price of crude produced in the Seminole area in Oklahoma has had no effect whatever upon operations there and further price cuts would not result in any decline in production. Yet the production of the Seminole area has caused price reductions in all other fields and the entire petroleum industry in the United States has felt the effect of low prices both for crude and refined products.

The price of Seminole crude today—$1.36 a barrel—is just $1.25 a barrel less than it was on November 1 last when the posted price was $2.61 a barrel, yet production from that area now is more than 400,000 bbls. daily greater than it was November 1.

No one can question the statement the entire price structure of the petroleum industry throughout the United States, both for crude and refined oils, has been virtually wrecked by the flood of oil from the Seminole area in Oklahoma. As stated in The Oil and Gas Journal last week, refiners of this country are sustaining a loss in gross revenue estimated at $1,645,000 daily from sales of gasoline alone. The losses to crude oil producers runs into hundreds of millions of dollars when prices in effect November 1 last are compared to those in effect today.

Further Cuts Believed in Sight

Consequently, Seminole is a national problem for it vitally affects every other oil field in the country and it is the factor responsible for price reductions in other fields—reductions which have brought the price of crude oil in many areas down to a point where it is unprofitable to produce it. Should Seminole be permitted to produce at its capacity during the remainder of this year and until the field has exhausted itself, it seems inevitable at this time further reductions in crude oil prices can be expected. Price reductions in the Mid-Continent area, caused by this flood of oil in that territory, are bound to be reflected elsewhere because the output of other fields must come in competition with Mid-Continent crude and prices must be readjusted to meet that competition.

It has been estimated, unless some curtailment measure is made effective in the Seminole area, that section will be producing more than 300,000 bbls, daily at the end of this year, one conservative authority figuring the output will be approximately 400,000 bbls. Production in other sections of the United States cannot be expected to decline very much between now and the end of the year with the development work now being carried on in West Texas, Louisiana and elsewhere. Consequently, unless some action is taken by Seminole operators, crude oil production in the United States at the end of this year will be somewhere around 2,350,000 bbls. daily, maybe more. It does not require much figuring to show what effect such a production would have on prices at the beginning of next year and well on into next year.

Proration Seems Logical

Proration of production seems to be the only logical solution of the Seminole problem, if the operators in that area are desirous of curtailing production. Little or nothing has been accomplished in the way of reducing production by the many meetings of operators. Wells covered in the agreement reached at the New York meeting on May 25, as being limited to produce 1,000 bbls., or 2,000 bbls., or 100 bbls., according to location, have been producing to capacity. Plans to limit drilling operations have met with opposition because such plans, it is claimed, worked hardships on companies operating in the areas affected.

No one can reasonably expect an operator to stop drilling in an area he believes to be productive while other operators are permitted to take the full production from their wells. Some companies having acreage in territory now believed proven and who have not participated in the gusher production of the earlier development, cannot be blamed for desiring to get a share of the oil now that they have an opportunity. Any plan submitted which does not treat every operator equitably cannot be expected to solve the problem. Each operator considers the overproduction problem from the standpoint of the position of his individual company. It is but natural that he should and because he does is no reason why he should be criticized for opposing some plan which he feels would hurt his interests and react to the benefit of companies which have been more fortunate in procuring a good share of the production at Seminole.

It seems somewhat odd proration of production has not been discussed before. It is the obviously fair method of reducing production to requirements of the industry. Every operator in the field would be affected equally. The company with the big production would still have more than the operator with a smaller output.

Effect of Pinching Wells

Some persons object to a pinching in of wells on the plea such action would hurt the wells and that the ultimate production of the wells would not be as great as it would be were the wells not pinched in. There are just as many others who contend such action would not result in a loss of ultimate recovery and some even go so far as to say pinching in the wells in the Seminole area would really help the wells and prolong their life. It is a fact wells in the Powell and Mexia Fields which were pinched in produced much longer than those which were permitted to flow at capacity.

If all wells in the Seminole area were pinched in, it certainly is open to question as to how ultimate production would be affected thereby. The oil is in the ground; its movement in the sand is not stopped by pinching in the wells and no more gas would be taken from the well pinched in, per barrel of oil, than is the case with the well flowing at full capacity or being flowed by air or gas lift. Tests made on wells being flowed by gas lift in Seminole and on those being pumped prove that the same quantity of gas per barrel of oil produced comes from the well with the oil whether that oil is brought to the surface by pumping or by gas lift. That certainly seems to answer the question raised as to depletion of the gas in the oil or that the gas would escape were the well not produced to capacity.

It is admitted wells being produced by air or gas lift can be pinched in. Many companies in Seminole unknowingly have really curtailed their production through inefficient application of the air-gas lift principles or by failing to have connections arranged in such a way as to assure a maximum production. Everyone is familiar with the fact that the removal of bends in pipes connected with wells being flowed by the air-gas lift method, resulted in a sub-

Consider Seminole Prorating Plan

Committee of Operators Appointed to Devise Method for Curtailment of Production. Another Meeting Friday.

By J. L. Dwyer

A proposal that production of the greater Seminole area in Oklahoma be curtailed was made at a meeting of operators of that section held in Tulsa on Tuesday of this week. It is reported only two companies operating in the field refused to agree to a proration of production, although it is said at least one of these companies will reconsider and probably join the majority. A committee of five practical operators was appointed at the meeting to confer and devise some plan of action to limit the output of the field.

The committee was appointed by Ray M. Collins, umpire of the field who presided at the meeting and consists of E. H. Moore, president of the Independent Oil & Gas Co.; J. J. Conroy, general superintendent of the Carter Oil Co.; J. S. Sidwell, in charge of the Prairie Oil & Gas Co.'s production interests; R. F. McArthur, vice president of the Barnsdall Oil Co.; and Howard S. Cole, vice president of the Pure Oil Co. The committee will devote the next few days to a consideration of the problem entrusted to it, and will report back to a general meeting of the Seminole operators on next Friday.

At the meeting it was suggested that the present output of the field be curtailed 25 per cent, although it is reported that many of the companies considered this figure too much.

The field is now making 516,000 bbls., and while no official announcement has been made, it is thought extremely likely that a plan prorating the output of the field somewhere between 15 and 20 per cent will be presented for consideration of the meeting on July 29. The details of this program are now being worked out, and the proration, if agreed upon, will include the four pools now producing, Seminole, Searight, Earlsboro and Bowlegs, and will affect all production regardless of whether the wells are flowing naturally, or being flowed by air-gas lift or other artificial method. In this program, all producing companies will be equally affected, and their daily output will be reduced by the same percentage.

The committee's plan, it is said, will provide that the outside wells not included in the four pools will be limited to a daily yield of 100 bbls., and the zone system proposed at the hearing before the Oklahoma Corporation Commission last week will be continued in the event that any wells now drilling should find production. The commission, last week established six zones which are thought to have possibilities of production, they are: Zone 1, territory around the Indian Territory Illuminating Oil Co.'s Little River well in Section 1-7-6; Zone 2, land around the Barnsdall Oil Co.'s well in Section 22-7-6; Zone 3, leases around the Gypsy Oil Co.'s well in Section 33-8-6; Zone 4, around the Gypsy Oil Co.'s well in Section 5-8-6; Zone 5, around the Indian Territory Illuminating Oil Co.'s well in Section 16-8-5; Zone 6, around the Prairie Oil & Gas Co.'s well in Section 24-9-5. There are now 36 wildcat wells drilling in the territory outlined some time ago by Umpire Collins, and these wells will be placed in zones if they show signs of producing.

With the large number of wells now drilling in the four pools which will be placed under proration if the committee's plan is accepted, it will be a problem to make proration effective, as the drilling wells will account for additional production. While there has been no comment as to how this will be done, it is thought that a certain figure (possibly 475,000 bbls.) will be adopted, and that the output of the field will be pinched in to this amount regardles of the output of the wells which will be completed.

Companies represented at the meeting were: Amerada Petroleum Corp., Atlantic Oil Producing Co., Barnsdall Oil Co. Carter Oil Co., Mid-Continent Petroleum Corp., Empire Gas & Fuel Co., Gypsy Oil Co., Indian Territory Illuminating Oil Co., Independent Oil & Gas Co. Prairie Oil & Gas Co., Roxana Petroleum Corp., T. B. Slick, Sinclair Oil & Gas Co., Shaffer Oil & Refining Co., Superior Oil Corp., Skelly Oil Co., The Texas Company, Twin State Oil Co. Tidal Oil Co., Pure Oil Co., Phillips Petroleum Co., Kingwood Oil Co., Westland Oil Co., and H. F. Wilcox Oil & Gas Co.

stantial increase in production. These bends were no more or less than a back pressure applied to the oil. Consequently, what was done unintentionally certainly could be done again, probably in another way, if operators desired to curtail their production by placing a back pressure on the wells being flowed by air or gas. Wells flowing naturally can be pinched in, in fact, wells of this kind are being pinched in throughout the country almost every day. Wells on the pump can have the production regulated.

Have Shut Off Air

There is a question as to whether wells producing less than 500 bbls. per day by air or gas lift can be pinched in without killing the well. It is claimed in small producers there is a delicate balance in the oil-gas ratio which must be observed and that any back pressure might kill such wells.

Instances have been cited where wells producing a certain quantity of crude oil have been pinched in and, when opened up, sometime later, failed to produce as much oil as at the time they were pinched in. Such instances do not prove the ultimate recovery from such wells was lessened by the pinching in of production because it is not known what decline in output would have been experienced in those wells had they been permitted to flow at full capacity.

There have been cases where the air or gas was shut off entirely from operation at wells and, after a period, restored. In the Tonkawa Field, Oklahoma (which by the way was the scene of the first air lift installation in Oklahoma) a well was flowing 760 bbls. daily on air lift from the Wilcox sand (the same formation as in Seminole) at a depth of 4,100 feet. The use of the air lift was suspended for 18 days and then restored and the well started off at 628 bbls. daily. In the Braman Field, Oklahoma, a Stalnaker sand well was producing 180 bbls. daily, by air lift, from 2,300 feet. The air lift was suspended for 23 days and on the day it was restored, the well made 163 bbls. In the Garber Field, Oklahoma, a Wilcox sand well was producing 914 bbls. daily by air lift from a depth of 4,400 feet. The air was suspended for 16 days and when restored, the well made 773 bbls.

Statements made that the channels through which the oil flows might be changed were the gas lift suspended might have merit if other wells in the immediate area were being produced at capacity, but with the gas lift still being operated, the movement of the oil to the hole would merely be slowed up slightly. It does not seem reasonable this slowing up of the movement, when the movement in offset wells was similarly slowed up, would affect the course of the channels through which the oil passed.

Engineers Should Study Problem

It has been estimated the life of a well in the Seminole area being produced at capacity with the gas lift is about 10 months. In other words, all the production it is commercially profitable to procure is brought to the surface within that time. If pinching in these wells merely slows up the movement of the crude in the sand to the hole, it seems logical to believe the life of wells produced by gas lift would be lengthened were the output curtailed under a proration agreement which would cover all wells in the area.

Even those who voice objections to a proration of production admit they have no facts or figures available to prove the ultimate recovery from a well will be less if that well is pinched in along with other wells in the same area. Consequently, with the benefit to be gained and further troubles to be avoided, it seems to be good business to try out some such plan as proration of production. Before the proration plan is rejected, competent engineers should make a thorough survey and report their results to the industry.

It is admitted conditions within the industry would be vastly improved if production were suddenly to drop 200,000 bbls. per day. It is also admitted unless something is done to curtail production in the Seminole area, there seems every likelihood crude oil prices will be further reduced. Proration of production would certainly retard such action upon the part of the purchasing companies, if not eliminate it altogether.

Phillips Perfects New Gasolines

Largest Manufacturer of Natural Gasoline Announces New Motor Fuels Suitable for Automobile and Airplanes.

The Phillips Petroleum Co., the largest manufacturer of natural gasoline, has perfected two new grades of gasoline, one of which is suitable for motor cars and the other for airplanes, according to an official announcement from the Bartlesville, Okla., headquarters of the company.

The grade which is suitable for motor cars will be known as the "Phillips Nu-Natural Gasoline" and is described as "a high-test, no-knock motor fuel." The other grade will be known as the "Phillips New Aviation Gasoline." The new gasolines are the result of several years of research on the part of the company. The products have been perfected for some time but the company has delayed offering the gasolines to the trade until actual tests over a period of several months had shown the practical value of the new motor fuels.

The announcement of the Phillips company follows several weeks of rumors regarding the new gasolines to be made available to the marketing trade.

To Enter Retail Business

Although no official announcement has been made, it is understood that the company in addition to offering the new gasolines in tank car shipments to the jobbing trade will shortly enter the retail business with a chain of filling stations. In this connection, plans of certain natural gasoline manufacturers to enlarge the markets for their products were outlined in an article appearing in the July 21 issue of The Oil and Gas Journal, page 37.

In connection with the plans of the Phillips company, it was announced that O. L. Cordell, formerly vice president in charge of refining and marketing for the Waite Phillips Co. (sold last year to the Barnsdall Oil Co.) has accepted a position of assistant sales manager of the company in charge of retail sales. Mr. Cordell has had wide experience in both the refining and marketing of petroleum products. During the past year with associates he built and is now operating a refinery at Borger in the Panhandle Field of Texas.

Regarding the new gasoline the Phillips announcement says:

"Phillips Nu-Natural Gasoline for motor cars is a high-quality product superior not only to the average motor fuel but to the premium gasolines now marketed. It has as its particular recommendation the ability to quickly start a cold motor even in zero weather, giving quick acceleration or pickup, and eliminating all knock in the automobile engine. It gives equal or increased mileage per gallon and with the above qualities greatly increases the ease of handling a car under all conditions.

O. L. Cordell

Use in Planes

"The company owns its own plane equipped with the new Wright whirlwind motor which is a type of engine requiring the very highest quality gasoline for the best operation. This plane has been used almost continuously in test work. Among the many tests that this aviation gasoline has undergone is a coast-to-coast flight under the variable atmospheric conditions customarily encountered. Many fliers and plane manufacturers have collaboratel in the tests of this gasoline which have shown that it eliminates engine knock and is thus peculiarly fitted to be used in the new high compression, whirlwind airplane motors. The tests have also shown that a smaller gallonage is burned per hour of flight, that a greater number of revolutions per minute and therefore greater power and speed are obtained through its use, and that it weighs one-half pound less per gallon. This all means increased speed and smoother operation of the plane with considerably greater mileage for the weight of gasoline carried which makes it exceptionally well suited for long flights.

"Because of the high qualities of this gasoline as demonstrated in these tests, three contestants for the Dole prize in the nonstop flight from San Francisco to Honolulu which will start August 12, will use this gasoline. The company has also underwritten, with other Oklahomans, an airplane flight from Bartlesville, Okla., to Tokio, Japan. The ship, Oklahoma, will use Phillips New Aviation Gasoline exclusively and will start from Bartlesville for a nonstop flight to San Francisco, leaving there on August 12 for Honolulu with other Dole prize competitors. At Honolulu the plane will be refueled for its flight to Tokio."

Seminole Production

Production of the greater Seminole area as of Monday of this week, together with what that production would have been had the wells been produced at 60 per cent of their capacity, is shown in the following table:

Bowlegs

Company, Farm:	Wells	Prod'n July 25	Prorated Prod'n
Amerada:			
Rasco	8	10,240	6.144
Atlantic:			
Baker	2	1,740	1,044
Fleet	3	1,950	1,170
Grayson	1	2,922	1,753
Jones	2	365	219
Barnsdall:			
McNac	1	75	45
Murrow	1	937	562
Carter:			
Bowlegs	2	3,550	2,130
Harjoche	6	5,340	3,204
Hilly	1	2,200	1,320
McGeisey	1	25	15
Walker	2	1,750	1,050
Wise	5	9,060	5,436
Empire:			
Lacy	5	3,987	2,392
Gypsy:			
Brown	1	82	49
Walker	7	4,590	2,754
Wise	7	.....	.....
Indep.-Marland:			
Coker	1	870	522
Indian-Territory:			
Barnett	2	2,496	1,497
Billington	2	2,567	1,340
Bowlegs	5	5,845	3,507
Davis	3	3,341	2,004
Fay	1	2,604	2,162
Goforth	9	8,306	4,983
Livingston	10	17,149	10,289
Lizzie	1	355	213
Walker	8	7,442	4,465
Wilmont	4	5,112	3,067
Wolf	1	1,087	652
Youngblood	4	1,687	1,012
House	1	11,809	7,085
McColloch:			
Bowlegs	2	1,085	651
Mid-Continent:			
Baker	3	4,778	2,866
Bowlegs	1	408	244
Hutke	1	130	78
Minnehoma:			
Bowlegs	4	4,231	2,538
Prairie:			
Gahagan	2	2,300	1,380
Harber	6	6,955	4,173
Templeton	1	740	444
Whitney	14	21,094	12,650
Pure:			
Reed, "E"	1	.....	.....
Roxana:			
Taylor	5	5,094	3,056
Shaffer:			
Lacy	3	2,952	.....
Sinclair:			
Adam	1	.....	.....
Bowlegs	1	65	.....
Ellen	1	1,800	.....
Harjo	3	1,800	4,300
Jones	2	2,540	1,771
Taylor	2	2,155	1,293
Walker	3	5,730	3,438
The Texas Company:			
Reed	4	8,130	4,878
Tidal:			
Harjoche	2	3,490	2,094
Twin State:			
Jones	1	710	426
Total Bowlegs	167	199,018	118,371

Earlsboro

Company, Farm:	Wells	Prod'n July 25	Prorated Prod'n
Amerada:			
Anderson	4	5,285	3,171
Cowden	4	23,415	14,049
Barnsdall:			
Davis, D.	2	3,366	2,019
Gibson	4	12,765	7,659
Hearn	1	42	25
Pack	1	2,235	1,341
Peter	3	1,364	818
Sebolka	1	3,416	2,049
Sullivan	1	526	315
Smith	1	125	75
Wasutke	2	2,617	1,570
Carter:			
Payne	1	2,495	1,497
Continental:			
Spencer	1	7,072	4,243
Crosbie:			
Bryant	2	12,385	7,431
Empire:			
Edmundson	1	5,203	3,121
Gypsy:			
Bora	1	.....	.....
Carter	1	850	510
Earl	1	.....	.....
McFarland	2	645	387
Noble	1	3,902	2,341
Peter	2	387	232
State	4	1,722	1,033
Strain	1	.....	.....
Independent:			
Knapp	1	367	220
O'Dell	2	11,450	6,870
Sullivan	1	255	153
Interocean:			
Payne	1	520	312
Magnolia:			
Bryant	2	1,471	882
Holmsley	3	6,944	4,166
Lena	1	400	240
Simpson	1	2,150	1,290
Sparks	2	2,887	1,732

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Institute Working On Co-operation

Secretary Welch Tells Cuba Meeting of Preparations Under Way. Changes in Laws and Customs.

By Robert L. Welch*
Secretary and Counsel of the American Petroleum Institute

There is no ground for pessimism. In fact if there ever was a time in the history of this optimistic industry when a sound-minded man with his feet on the ground, and purposing to keep them there, purposing both to use his imagination and his common sense, could indulge in sound optimism as to the future of this industry, it would seem to be today. The overwhelming fact of the present oil situation is not that we have a great overproduction of oil, as serious as that is. It is not even that our problem is the restriction of production. It is that the industry shall make practicable and usable that which is already known by many relative to use of gas in the lifting of oil. If the vast knowledge already accumulated shall be added to if necessary, and given practical application, there is every reason to anticipate that whatever may be the disadvantages of the new practices which seem sure to come, the tremendous fluctuations in the supply will fade from the petroleum picture together with the violent, and, to many, inexplicable rise and fall of prices. Further, our potential resources will be vastly increased and both our production and our markets greatly extended. The extension of petroleum markets awaits only reasonable stability of supply with the resulting stability of price. With the elimination of the cost of wells now required, but which will be useless economic waste under new practices, the new knowledge at hand forecasts that a changed petroleum industry will arise, under future conditions surrounding the production of oil. I am not predicting an industrial millenium. No one with any common sense would do that, for so long as competition endures in the oil industry, which we all hope will be forever, competitor will goad competitor and the race will be to the efficient, the able, and those who do not falter, in the future as in the past.

Division of the Pie

Yesterday the problem of oil production was one of division of the oil as between the several owners of the various tracts comprising a single pool. This problem was settled in the only practicable way, viz; by allowing him who took first to have that which he took. There was a pie to divide, but as it was hidden, and the function of gas not understood, there was no sensible and practicable rule which any court could enforce except to say—"Gentlemen, get the oil out as fast as you can and the courts will protect the ones who get it first." Under the knowledge then existing this was equitable and just.

But today the problem is more complex. In most pools in the country, by and large, many experts are now agreed that two pies can now be divided, instead of one, if we but keep our eyes and minds steadily on the fact, and bring forth from nature that which she will readily give forth if we abandon haste for expedition, and waste for conservation of oil and capital. Once it is assured that by giving as much respect to his neighbor's rights as he gives to his own, the oil producer, previously hampered by lack of knowledge, can obtain not only more for himself, but also more for his neighbor and the consumer. Attention should now be focused upon the next step to make that ideal practicable, viz: the actual means or methods whereby the condition surrounding production should be modified. We have reasonable assurance from the progress of science in the past that the solution of this difficult problem will not be long delayed. That it is difficult no one with full knowledge of the multiplicity of differing conditions pertaining to oil pools and sands can deny. But that it will prove impossible of solution would be a confession that, in the case of oil, cause and effect have no natural sequence, to say nothing of the assumption that oil men have ceased to be practical-minded men.

Working on a Plan

It would be a waste of your time and an intrusion on this celebration for the speaker to go into the intricacies of law and facts in so far as he knows them; to trace out how, with changing facts, we have changing laws; how, if the development of the common law shall seem to walk when we need to run, the individual and correlative rights of the owner of an oil pool can be so safeguarded and dignified as to bring about a new order of things without an appeal to the general police power of the state. Almost every one concedes that this latter step should not be taken, except possibly as a last resort. The speaker is working on a memorandum relative to all these matters which in due course will be submitted to a leading member of the American Bar. If this memorandum shall meet with the general approval of that distinguished lawyer and jurist, the facts will be made freely available to the industry and the public. In the preparation of that memorandum, certain fundamental principles relative to the problem which the industry, the Government and the states are endeavoring to solve, more and more have borne themselves upon the speaker's mind, and he takes the liberty of here stating these convictions.

1. This is a democratic Government and a democratic industry. That Government—the people who make it up—this industry, and the people who make it up, are entitled to every pertinent fact, opinion, or judgment, clearly stated and in as understandable a form as possible, before anything revolutionary shall be done affecting the interests of the producer or the consumer or the national defense and the national security. A problem of this size, the greatest ever attempted to be solved by any industry in America, can not be solved under a bushel.

2. The same consideration as to publicity, applies to the possible avenues of relief through the various types of law, particularly whether the path of the producers, estate and private rights is not the one which should be traveled step by step.

3. The problem is not whether some man is right, or whether some group of men is right. It is, in the last analysis, whether public opinion within and without the industry shall be convinced that the measures which may be put in force are fair, equitable, just and practicable. He who is short-sighted enough to think that any great industrial reform can be forced through in America, even though it is right, without due regard to public opinion, only delays the orderly progress of his own child.

No Temporary Solution

4. Any attempt to solve a temporary situation, no matter how aggravating, and no matter how patriotic and unselfish may be the motives of those who propose the remedy, will be found to be an illusion if care is not exercised to distinguish between that which is transitory and that which must stay with the industry for a long time. There is an inconsistency in economics between that which may seem to be any man's immediate interests, and the interests of all men for a long time to come. Economists state that poverty comes to people because they are unwilling to make sacrifices in the present in the interest of savings and their future security. It seems to the speaker that this principle has application to companies as well as to individuals.

5. Of course everything which can be done should be done to alleviate temporary conditions. But the public and the industry should not confuse that which is done in haste with that which shall be done with care and deliberation. Nothing could cause more delay to the movement for true conservation than for the public erroneously to get the conviction that what the industry is trying to do ultimately is to restrict production.

Fundamental Change

6. And, finally, the next step seems to be not what kind of a law we can or ought to get—that step is doubtless down the road—but rather what kind of facts have we, what kind of facts do we lack. In what respect, if any, do we lack facts, and how can we get them. It is not enough that a few men may answer these questions. It will suffice only when all intelligent men shall have the opportunity to answer them. No reasonable being can ask any company to disclose its trade secrets to him, but if that company asks him to go along with it in a fundamental change in the practices of the whole industry, he is perfectly reasonable in asking full information.

The president of the American Petroleum Institute, E. W. Clark, has authorized a complete examination of all the existing facts relative to the function of gas—the work is arduous, fatiguing, and calls for the greatest and most intelligent labor and co-operation. It would be a grave mistake to make any prediction as to when a task shall be completed.

All I can say is this—put me down as an optimist as to the future of this great industry, as a believer that its practical men will solve its problems, and that this industry, despite the fears of some, will not drift into the lamentable condition of its sister business, the coal industry.

Incident to all the foregoing is the problem of our habits. There is nothing stronger in human nature than habits of thought and the customs and practices incidents thereto. Some times, men break the habits of a life time because they are worn so thin that nature revolts and makes them do new things. The present serious overproduction of oil may be the crisis which will enable the oil industry to begin to break its previous habits and to take on a new psychology which in the beginning may look like insane confusion but which will lead to new grooves and new practices. It takes sledge hammer blows to break precedent and the only sledge hammer blow which ever could or ever will break the habits of any firmly established industry, break them even after facts have made it apparent that these habits or practices should be discontinued, is a crisis which will bring forth the services of the doctors of science, the doctors of law and the doctors of practical production.

The hour has struck in the oil industry when every producer of oil can well

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*Address at the celebration at Cuba, N. Y., of the three hundredth anniversary of the journey of Joseph La Roche Dallion, the Franciscan friar who is reputed to have seen the first petroleum on the North American Continent.

CONTROVERSY REGARDING RUSSIAN OIL RESULTS IN THREE STATEMENTS

NEW YORK, July 23.—The controversy over Russian oil has two separate angles, so far as men conversant with the situation here are able to judge. There is the sentimental, or perhaps political, side; and there is the purely commercial side.

There is a "union" in Europe composed of the Standard Oil Co. of New Jersey, Dutch-Shell combine, and Anglo-Persian Oil Co., which agrees not to buy Russian oil produced from properties formerly owned by any of the members. This union is still supposed to be operative. It affects, however, only the territory comprising the United Kingdom and the Continent.

Because of the existence of this union, the Soviet oil administration has set about making connections with independent oil marketers in Europe, and has been more or less successful. It was particularly successful in England, until the recent diplomatic break between England and the Russian Soviet Government. In France and some other European countries the Soviet has made exclusive selling agreements with "La Petrofina Francaise" and that company's subsidiaries operating in Belgium and elsewhere. In Spain a separate agreement was made through influential citizens and the Soviet oil acquired a firm foothold.

Different Outside of Europe

Outside of Europe, however, the position of Soviet oil from a commercial viewpoint is vastly different than in Europe. So are the relations between marketing companies. For instance, the principal American marketing companies in the Far and Near East are the Standard Oil Co. of New York and Vacuum Oil Co. Their chief competitors in the foreign group are Dutch-Shell, with production in the Dutch East Indies, and the Anglo-Persian Oil Co., with production both in Persia and India. It is stated by men who know these marketing fields that American oil cannot compete successfully under present conditions with oil produced by Anglo-Persian and Dutch-Shell in the Near and Far East. This is what is said to have induced the Standard Oil Co. of New York and Vacuum Oil Co. to buy Russian oil for these markets. The products most affected by these purchases are fuel oil and kerosene.

On the side of the Soviet oil administration is the claim that three-quarters of the oil now produced in Russia is coming from properties developed subsequent to the beginning of the Soviet regime. The Soviet has never receded from its position that the previous owners of properties are not entitled to p r i v a t e property rights, while these owners, in turn, maintain that all oil sold from their former properties is practically stolen oil. From this angle, it seems incidental as to where this oil happens to be marketed.

The Standard Oil Co. of New Jersey wants it understood in the United States that it is not buying Russian oil to replace that which otherwise would be exported from the United States. This is important because the company accounts for something like 50 per cent of the total American exports of petroleum products.

The following official statements have

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Oklahoma Fuel Oil Market Weakens

Widening Distribution of Natural Gas in Southwest Held Responsible for Lower Prices. Refinery Gasolines Reactionary

By C. O. Willson

The past week witnessed a slight reaction in refinery gasolines in the Oklahoma (Group 3) market with a better movement and higher prices for natural gasolines. Although they had very little material to offer for immediate shipments Oklahoma refiners were forced to lower their fuel oil prices to meet the low-priced competition of Kansas and north Texas refiners. Other products did not develop any important changes during the week either as to demand or price.

The refinery gasoline situation is similar to that which prevailed the latter part of June. In June the market weakened the last few days of the month and it was feared that still lower prices would prevail in July. The price slump at that time was brought to an abrupt end the first of July when refiners led by the major companies advanced their quotations on the domestic grades from one-fourth to one-half cent.

Refiners during the past week were unable to maintain the 7¼-cent price established for 58-60 437 U. S. Motor gasoline. The market on that grade was again established at 7 cents the first of the week. Some sales were still being made at the 7¼-cent figure but these were offset by business which was being placed at 6⅞ and 6¾ cents.

Interest in the trade now centers in the August gasoline business. It is known that several refiners expect to see the 58-60 U. S. Motor market again established at 7¼ and possibly 7½ cents the first of the month. These refiners are refusing to consider any August business under these quotations. Sales for August, however, have been made at 7 cents and even lower in case of resale material.

The August gasoline market apparently depends on the attitude of refiners over the remainder of this week. Those who are expecting a strong market over August point to the fact that it is the principal gasoline consuming period of the year. Data of previous years show that 10 to 11 per cent of the year's consumption takes place during that month This heavy retail consumption in the past has often taxed the transportation facilities of the refiners.

Those who are predicting a gasoline market for August under that of July also have plenty of bearish factors in the present petroleum situation to support their contentions. The continued advance in Seminole crude production which has resulted in a new peak in total production for United States has again brought rumors of additional crude price reductions. The feeling that many refiners in the face of this continued overproduction of crude oil will take advantage of August to reduce their gasoline inventories together with the fact that refiners outside the Mid-Continent are already offering low-priced competition for the August business, are other factors which have brought a feeling of uncertainty regarding next month's market.

REFINED MARKET BAROMETER

A continued heavy retail consumption of gasoline in all parts of the country during the past week found refiners in a position to take care of the business with no disposition to advance tank car prices. The trend toward higher gasoline prices in the tank car market of the Middle West and Mid-Continent was ended during the week and sellers were having some difficulty in maintaining the advances of the previous week. Gasoline prices at East Coast refineries, which also reflect the Gulf Coast market, were not changed. The unsettled gasoline situation in the East continues to be reflected in retail markets of the East. For the first time in several weeks weakness is apparent in fuel oils at several interior refining centers. The coast fuel oil markets are firm. Kerosenes are inactive both for domestic and export shipment. Gas oils closely followed the fuel oil market developments. Wax market is irregular, with the sales on refined wax being made with price concessions. Lubricating oils steady except Gulf Coast, where neutral prices have undergone general reduction.

Atlantic Seaboard—No change in gasoline tank wagon prices. Retail gasoline market unsettled. Kerosene weak. Gas oil weak. Bunker oil and Diesel oils active.

Mid-Continent—Gasoline advance stopped with market fairly steady first of week. Fuel oils weak and prices lower in Kansas, Oklahoma and North Texas. Gas oil slow. Kerosene and distillate steady.

Pennsylvania—Higher gravity kerosene lower. Neutrals strong. Good movement of gasoline, with no changes in price.

California—Domestic gasoline prices firm. Other products unchanged.

Gulf Coast—Most grades of neutral reduced. Gas oil weak.

Fuel Oil Situation

In connection with the decline in prices during the past week, some market observers are pointing to gas competition in the Southwest as the factor in the present fuel oil situation which will increase in importance as new gas line projects are completed. The extension of gas lines in the Southwest has been explained from time to time in articles appearing in The Oil and Gas Journal.

Trunk lines out of the Monroe district in Louisiana to Louisiana and Texas Gulf Coast points and other Texas points, new lines from southwest Texas to the coast and mammoth projects out of the gas-producing area of the Panhandle in Texas in all directions have either been completed or will be during the next few months. When these lines are completed, practically every large city in the States of Kansas, Oklahoma, Colorado and Texas with many points in Arkansas and Louisiana will be supplied with gas. In connecting to these large cities it is the policy of the gas companies also to provide gas for the smaller cities and towns so that the gas service in the near future will almost completely blanket the states of the Southwest.

Industrial Gas

Some of this gas will replace distillates as fuel for home heating. However, by far the most important competition is in the industrial end. So much gas is available that it either is or will be offered at low enough prices to attract in-

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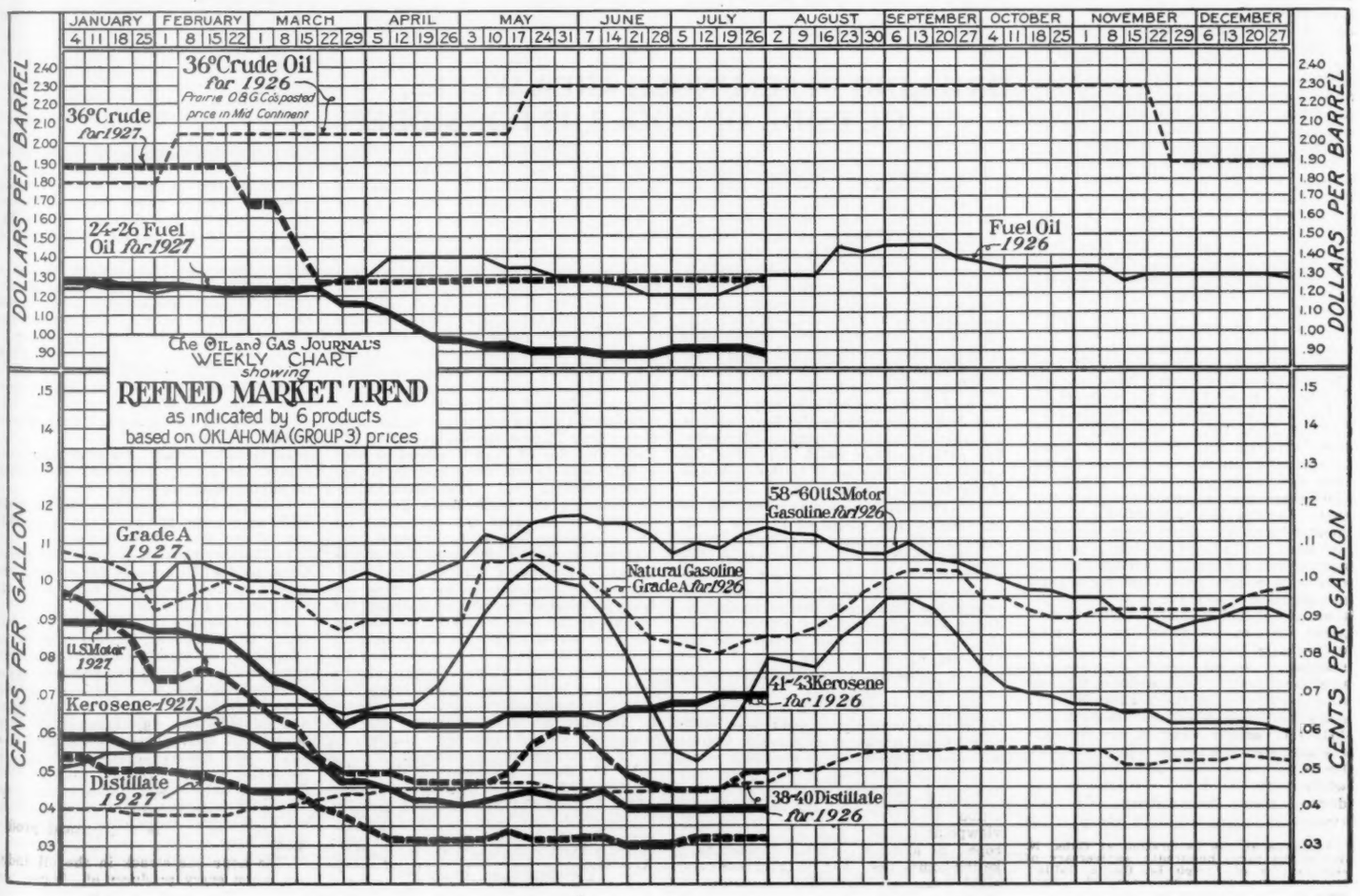

Winkler County Feature in West Texas

Seven Wells Shut Down With 6-inch Casing Cemented and as Many More Below 2,000 Feet. Situation Critical

By C. D. Lockwood
Staff Correspondent, North and West Texas

FORT WORTH, Tex., July 25.—The Winkler County situation dominated the interest of producers in West Texas during the past week, as seven wells were shut down with 6-inch casing cemented and an equal number were drilling below 2,000 feet. Hopes are still held that a shutdown will be maintained in this area, according to the tentative agreement among most of the producers, but serious doubts and fears are expressed with Texon Oil & Land Co.'s No. 1 Hendrick, key to the situation, lacking only 6 feet of being as deep in the lime as Gulf Production Co.'s big producer. At latest report, Southern Crude Oil Purchasing Co.'s No. 1 Hendrick-A-1 in the SE cor. NE of Section 44, Block 26, a mile north of the field, was within 33 feet of being as far in the lime as the Gulf producer. As one official of a major company expressed it, most of the drilling tests in the field are getting down to the point where all that is necessary is for somebody to cough and the whole bunch will drill into the pay.

A new lime top was contributed this week by Southern Crude Oil Purchasing Co. Its No. 4 Hendrick-C, in the SE NE NE of Section 33, topped the lime at 2,600 feet, with surface elevation of 2,811 feet.

The status of all wells in the field, with the exception of Gulf Production Co. tests, is given in the wildcat report accompanying this article. Gulf Production Co.'s No. 3 T. G. Hendricks was drilling at 1,985 feet, with a hole full of water; No. 2 is shut down; No. 4 was drilling by 8-inch casing at 1,785 feet; No. 5 was drilling in brown lime at 2,505 feet; No. 6 was drilling in salt at 2,290 feet; and No. 7 was drilling out cement at 2,490 feet.

Some bad news for northern Winkler County came this week with the report that Roxana Petroleum Corp. and Llano Oil Co.'s No. 1 Scarborough had encountered 200 feet of sulphur water at 3,435 feet. This well swabbed 115 bbls. July 17 from the second pay at 3,124-28 feet. The first pay which created excitement and caused the Roxana to purchase a half interest in the Llano Oil Co.'s block was found at 2,990 feet. The generally accepted depth at which the top of the lime was found in this well is 3,132 feet. The sulphur water occurs, therefore, 303 feet in the lime. Under the contract by which Roxana acquired its interest in this well Llano Oil Co. is to drill it to a depth of 4,000 feet unless oil is found in paying quantities at a lesser depth. This deal, although begun a couple of months ago, was closed definitely just last week. Roxana paid $55,000 for a half interest in Llano's 3,600 acres, including the well, and also gave Llano a half interest in 1,400 acres which Roxana had previously bought from them for a total consideration of $37,000.

Murchison Oil Co. and Marland's test in the NW cor. SW of Section 35, a mile east of the Hendrick Pool, has caused three other tests. One is a northwest offset by Humble Oil & Refining Co., another is a west offset by Pure Oil Co., and the third is a test one-quarter mile farther east by Southern Crude Oil Purchasing Co. Foot measurements of these are given below in the list of new West Texas locations.

Yates Pool Extension

Pecos County's famous Yates Pool appears to have been extended nearly a half mile northwest by the California Co.'s No. 1 Yates, 1,320 feet out of the SE cor. of Section 34, Block 194. This well made 15,000,000 feet of gas at 1,000 feet. The plug has been drilled to the bottom of the casing, which was cemented at that depth and pipe line connections have been made. With surface elevation of 2,490 feet, this test figures out about 29 feet higher than Mid-Kansas and Transcontinental's No. 1 Smith-Taylor, formerly the highest well in the field. The latter well started spraying oil at 1,184 feet with surface elevation of 2,645 feet. Unverified reports early this week stated that oil was rising in the hole in the California test.

Transcontinental Oil Co. is surveying a line from the Yates Field to a place called Pumpville on the Southern Pacific, about half way between Sanderson and Del Rio. If constructed, this line will be a 10-inch about 70 miles in length, and will be the most modern and up-to-date possible, according to H. D. McCracken, head of the United Producers Pipe Line Co. (Transcontinental) at Fort Worth.

Production of the Yates Pool remains about 4,500 bbls. daily, with all wells pinched in to a fraction of their potential output. If the California test makes a big well, it will probably mean a heavy drilling campaign, accompanied by the construction of many steel storage tanks.

Mid-Kansas and Transcontinental's No. 5 Yates-A, east offset to No. 1 Smith-Taylor, is the next well due in. It was making 3,000,000 feet of gas Sunday at 1,155 feet, and the boiler was being moved back.

Church-Fields Pool

Only six new producers were completed in the Church-Fields Pool of Crane County during the past week, the aggregate initial production, however, being 6,928 bbls. All of these are listed under the following completions report except Simms & Atlantic's No. 4 University-C, NW SE NW Section 47, Block 30, which flowed 2,960 bbls. at 2,850-2,903 feet. It topped the first pay at 2,820 feet. This is an inside well. Ten new tests were started in the Church-Fields Pool last week, including Landreth Production Corp.'s No. 14, which is farthest east on his 400-foot strip. Gulf Production Co. also started No. 36 J. T. McElroy, 200 feet south and 4,290 feet east of the NW cor. of Section 200, and No. 37, which is 771 feet south and 3,960 feet east of the same corner.

Crane County's lone wildcat test seems to indicate the possibility of another Church-Fields Pool, about 10 miles northwest of that producing area. It is Gulf Production Co.'s No. 2 Waddell in the NE cor. of Section 10, Block B-25, almost exactly halfway between the Church-Fields Pool, and J. S. Cosden's production in Ector County. It topped the brown lime at 3,068 feet with surface elevation of 2,741 feet, which gives it a sub-sea elevation of 327 feet on the lime. Cosden's No. 1 Connell-A, the first producer in Ector County topped the lime at minus 323 feet, and the Church-Fields discovery at minus 324 feet. Cosden's first test on the Connell land, located about 6 miles west of the Gulf Production Co.'s No. 2 Waddell, topped it at minus 632 feet, and his No. 1 Connell-B, dry hole in Ector County, at minus 572 feet. This looks very much as though another West Texas Field is in the making.

Humble Pipe Line Co. was forced to restrict its runs from the Church-Fields Pool last week, due to the fact that its storage is full. Runs were prorated and curtailed about one-third, effective 7 a. m. July 19. Humble took 43,272 bbls. from Crane County the week before and Southern Pipe Line Co. took 14,870 bbls. Eastland Oil Co., with a daily average of 11,338 bbls., was cut down to 5,000 bbls., and Simms and Atlantic, with 16,560 bbls., were cut down to 10,000 bbls. The Pecos Oil Co. (formerly Cromwell & Pickrell), with a production of 5,292 bbls. daily, were prorated to 2,000 bbls. Completion of the Humble's 10-inch line from Upton County to Ingleside (Corpus Christie), which is expected during the next two or three months, will greatly relieve this situation, as Humble will then have an outlet to the Gulf for 70,000 bbls. daily, whereas its present capacity is 40,000 bbls. by pipe line, and a large part of this is tied up under contract in the Big Lake Field.

Winkler County Wells

If the Winkler County wells are drilled in and that field is proved to be as prolific as anticipated; also, if the California extension test in Pecos County is a producer comparable in size to the others in the Yates Pool, then you can expect to see 50-cent oil in West Texas within a short time, according to some conservative observers in Fort Worth.

Reagan County's deepest well, Texon Oil & Land Co.'s 1-B University, Group 1, was drilling ahead at 6,446 feet according to latest report. Top of the pay was corrected at 6,284 feet. There was 1,600 feet of oil in the hole, the gravity of which tested 38.7 degrees.

Humble Oil & Refining Co. paid $105 an acre or $16,800 for the SE of Section 27, Block 26, Public School Land in Winkler County, about 5 miles north of Hendricks Pool. The North Central Texas Oil Co. purchased a 1-256 interest in the royalty under Section 34, Block B-5, the section in which the Gulf producer is located, paying at the rate of $1,000 an acre for the full interest. George A. Henshaw, Jr., also purchased a 1-128th interest under Sections 45 and 46, Block B-26, and Sections 40, 41, 34, and 35, Block B-5, paying at the rate of $650 base.

The Skelly Oil Co. bought the west half of NE of Section 39, Block 26, for $125 cash and a like amount in oil. Humble Oil & Refining Co. also bought the SW of Section 39, Block 26, about 3 miles north of the Winkler Pool, for a similar price, $125 cash and $125 oil.

In Andrews County, Amerada Petroleum Corp. paid $5 an acre for the NE of Section 19, Block A-53, Public School Land.

In Gaines County, Amerada also purchased the E-half of Section 408, Block G, paying $2.50 an acre.

In Garza County, the Sun Oil Co. paid $2.50 an acre for 200 acres out of the NE cor. of the Isaac Scott Survey.

In Hockley County, Roxana Petroleum Corp. paid $7.50 an acre for an 800-acre spread around the World Oil Co.'s location for No. 1 Ellwood.

Foard County's first oil well, Fain-McGaha Oil Corp. & Roxana Petroleum Corp.'s No. 1 Matthews, was mentioned last week as showing the earmarks of a producer. When put on the pump this week it gauged 60 bbls. the first 24 hours and 52 bbls. the second day from sand at 1,484-92 feet. This is correlated as a stray sand above the horizon which is producing in the Fluhman Pool of Wilbarger County several miles to the east. It is said to be the intention of the owners of this well to produce it for awhile at its present depth and then deepen it as soon as normal conditions return to

(Continued on Page 46)

DRILLING IN SEMINOLE AREA WELLS, OUTSIDE OF POOLS, IS FORBIDDEN

The Oklahoma Corporation Commission, in response to a petition filed by Ray M. Collins of Tulsa, who has been the umpire in charge of the Seminole Field, last week issued an order returnable August 5, forbidding the drilling in of any wells in the Greater Seminole Field outside of the pools now under development, namely Bowlegs, Earlsboro, Seminole City and Searight, until the date of return. The order means very little, as there are no wildcat wells close to the sand except in one case, and the completion of wells in the four pools of the field is not restricted in any manner. The drilling activity in the four pools is not affected by the Commission's order. The only provision which will affect the output of the four pools is the exclusion of the torpedo wagon from the field.

The petition, which was circulated by M. Collins, was discussed at two meetings of the commission held in Tulsa previous to the hearing before the commission, and the majority of companies operating in the field declined to vote either for its adoption or against it. There were 31 companies represented at the Tulsa meetings, and 10 voted for the adoption of the petition while 7 voted against adoption, the balance reserving their vote.

The greater part of the hearing before the Corporation Commission was occupied by the testimony of Umpire Collins who stated that owing to the overproduction of the Seminole Field, there was danger of additional crude price reductions. He stated that the field was producing far in excess of the transportation and marketing facilities and that the intensive drilling campaign constituted a menace to the crude market.

J. Edgar Pew, vice president of the Sun Oil Co., explained the circumstances and theories of drainage which would naturally cause a company to start drilling operations as a protective measure.

It was apparent that the area most in mind was the Little River Pool around the Indian Territory Illuminating Oil Co.'s new well in Section 1-7-6, which is flowing 12,000 bbls. daily. This is thought to be another major pool of the field. There have been agreements perfected for limited drilling around the Little River well, and the operations up to this week have been limited to 12 wells. It is very significant that an inspection of the map shows over 10 new operations during the week, and the 10 have a spread of over a half mile in all directions from the present drilling sites. This seems to settle definitely the Little River Pool, and probably means that the agreement on limited drilling has been abrogated.

Henry McGraw, vice president of the Gypsy Oil Co., was a witness at the hearing, and testified that in his opinion the most satisfactory method of limiting the output of the field would be to suspend the operation of all air-gas lift equipment in the entire area. He stated that by this means the daily production of the field could be reduced 280,000 bbls., and improved conditions would be immediately forthcoming. The majority of the companies seemed opposed to the removal of the air-gas lift equipment.

E. H. Moore, president of the Independent Oil & Gas Co., the company which opened the Wilcox sand pool in old Seminole one year ago, was another witness. He testified that certain contractual obligations made by the produc-

(Continued on Page 194)

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SEMINOLE SOLUTION FOUND

The Tulsa meeting of Seminole operators has taken a definite step that may lead to a solution of the problem menacing the industry.

It was recognized from the start that general agreement was essential to any really effective plan, and it was found that general agreement depended upon a plan that would be equitable to everyone.

Proposals that at first glance seemed equitable in theory were discovered to be unfair in practice according to changing conditions.

Companies operating in the field have been subjected to a great deal of criticism from temporary viewpoints but a thorough study of the situation as it has developed shows that their positions have been consistent with their rights in the absence of any general agreement that would protect their legitimate interests.

Until such an agreement could be reached it was the duty of each competitor to defend its interests to the best of its ability and the responsibility for present conditions rests upon the failure to agree sooner rather than on the attitude of any individual company.

The hearing at Oklahoma City before the Corporation Commission developed this phase so it could be seen clearly. What seemed at the time fair to some in one position was bitterly opposed by others in another position. Altered conditions might easily reverse those opinions. That hearing made it evident that some other method must be tried that would unquestionably be fair to all at all times and under all conditions.

The suggestion of a 25 per cent proration of production applicable to the entire field met that requirement. Everyone could approve it without fear of undue advantage by a competitor.

Like solutions found in many great emergencies in history it was the simple and untried expedient that promised success.

Proration of pipe line runs has been demonstrated as an effective and equitable method of dealing with overproduction in earlier fields. In Seminole this was not applicable but agreement upon proration of production was within power of general agreement at any time such unanimity could be obtained.

Possibly such a proposal at earlier stages might not have secured the consideration that the development of the existing emergency has now forced upon attention. When Seminole was discovered the industry was still far from believing that any co-operation was possible.

But in the past six months events have shown that co-operation can be attained and this agreement at Seminole is the first flower of its growth.

The question remains whether a 25 per cent proration will secure the results sought.

The important thing is that if general agreement can be reached on a 25 per cent proration of production there is no logical reason why that percentage cannot be increased to whatever point is necessary to effect the desired end.

Obviously a 40 per cent proration would be as fair to one and all as a 25 per cent rate if the larger percentage is required.

The essential point is that the result be obtained, the percentage being merely a measure of the means necessary to that end.

The sentiment for agreement has been growing more rapidly since the field passed the 500,000-bbl. mark with no calculable peak yet in sight.

The fact that this mark was reached in the middle of the consuming season added weight since it was becoming plain that, unless something was accomplished soon, the industry would pass out of the period of heavy consumption into the winter with enormously increased stocks far in excess of requirements, with results that would be perilous to the entire industry.

Seminole crude, being of superior quality, is being run to stills quickly while other crudes are being put in storage.

The producers in other fields, the men with small settled production who have been crowded out of the picture by Seminole's overproduction and the resulting reduction in prices to a point below their cost of operation, cannot indefinitely survive present conditions.

If these conditions are permitted to get worse and to continue into the winter the effects upon the mainstay of the nation's oil supply in the older fields may easily be disastrous.

This is the situation as it appears today unless some solution is applied at Seminole. It is a situation that far transcends the interests of any individual company or companies.

That it is so recognized is evidenced by the spirit displayed at the Tulsa meeting.

The Oil and Gas Journal has never doubted that if the oil men would get together to discuss the general necessities of the industry they could reach a formula that would be fair to all and be effective.

There is no necessity to look outside the industry for assistance because in the end any plan adopted, to be effective, must have the unanimous co-operation of all affected; and if agreement within the industry can be effected it can accomplish whatever is desired.

Agreement seems nearer today than at any time since Seminole was discovered. Differences may develop upon the percentage of proration but the test should be a percentage that will keep production within a limit that will be recognized as stabilizing the situation. A proration less than this would be an idle gesture.

The leaders of the industry are reported working upon a comprehensive program for the eventual stabilization of the industry, a permanent policy that will take care of future situations that might otherwise develop into Seminoles.

Such a program is long overdue but was never more needed than at present when so many potential fields are in view.

Unless something of the sort is accomplished the industry will plunge out of one crisis into another as it has been doing for the past five or six years with every chance that the crises will be more frequent and lasting and disastrous.

Beyond that there is always the peril that popular opinion and the Government may decide to intervene and take away from the industry the power of initiative and self-government which it now posseses if it fails to use them.

These are considerations that should be kept constantly in mind in every conference in the industry until a solution is found and applied.

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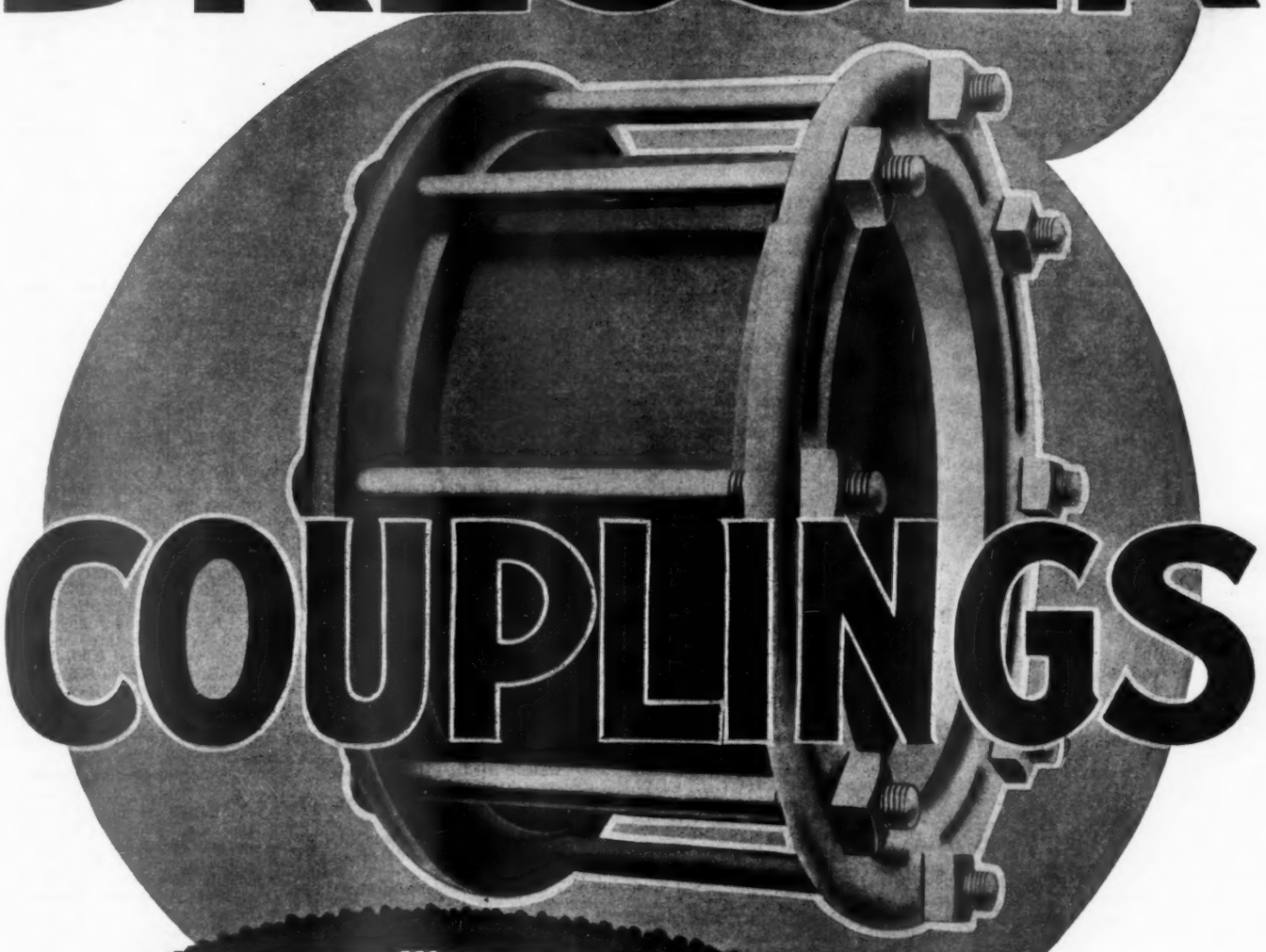

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DOMINATE

NORTH AND WEST TEXAS

(Continued from Page 42)

the industry. No new locations have been announced around it but an active drilling campaign is forecast for all of Foard County as soon as the price of oil warrants it.

Cooke County passed the 5,000-bbl. mark in daily average production this week. The Muenster Townsite Pool was extended about 1,000 feet southeast by Gainesville Oil & Development Co.'s No. 1 Stoffels which swabbed 244 bbls. after a shot. It had sand at 1,646-53 feet and sandy shale 1,653-59 feet, total depth being 1,672 feet. The north side of the Townsite Pool, however, doesn't look so good since the north offset to Ed Ruwaldt's well on his 1-acre tract drilled into water at 1,725-29 feet and plugged back to 1,723 feet. This is Lynch, Stahl & Burress' No. 1 fee. Top of sand was found at 1,707 feet.

Strauss & Allen in Block 56 of the townsite cored a very poor looking sand at 1,697-1,700 feet and this doesn't help the looks of the pool in that direction.

Sowell Brothers, Bond & Evans are reported to have purchased a half-interest in the Joseph Fleetman 26-acre tract north of the Katy railroad from McElreath & Suggett for $30,000, half cash and half oil. This is at the rate of $2,000 an acre for a full interest. Sinclair Oil & Gas Co. owns the other half interest.

NORTH CENTRAL TEXAS ESTIMATED PRODUCTION
Week Ending July 23, 1927

Ranger district—	
Brown County	18,815
Callahan County	4,015
Coleman County	930
Comanche County	1,640
Palo Pinto County	550
Ranger	9,310
Shackelford County	6,135
Stephens County	10,000
Total Ranger district	51,395
Wichita Falls district—	
Archer County	26,490
Baylor County	90
Clay County	690
Cooke County	5,130
Jack County	690
Montague County	11,680
Throckmorton County	1,860
Wichita County	30,880
Wilbarger County	12,640
Young County	9,150
Total Wichita Falls district	99,300
Total North Central Texas	150,695
West Texas district—	
Bik Lake Field	24,164
Crane County	76,489
Crockett County	1,767
Ector County	15
Garza County	7
Glasscock County	40
Howard County	3,239
Jones County	1,732
Loving County	25
Mitchell County	3,762
Pecos County	4,835
Scurry County	22
Upton County	23,379
Winkler County	1,602
Totals West Texas district	141,079
Grand total North and West Texas.	291,774
Total last week	284,105
Increase	7,669

NORTH CENTRAL TEXAS COMPLETIONS

Wichita Falls District

Archer County

Bridwell & Heydrick's No. 1 Griffin was dry and abandoned at 1,760 feet. Barnsdall Oil Corp. and Trahan's No. 2 Perkins was a location abandoned. Three other dusters were Continental Oil Co. and Perkins & Cullum's No. 5 L. F. Wilson, at 1,505 feet; C. B. Long's No. 1 Andrews, at 1,555 feet; and Rayzor and Sinclair Oil & Gas Co.'s No. 1 Wilson, at 1,515 feet. Plains Production Co. abandoned location for their No. 5 Lyles, and Tidal Oil Co. also abandoned location for No. 4-A Turbeville.

Abercrombie and Roxana Petroleum Corp.'s No. 1 Abercrombie & Taylor made 34 bbls. from sand at 1,376-82 feet. Consolidated Oil Co. and Anchor Drilling Co.'s No. 1 Troxel was a dry hole at 1,400 feet. Consolidated Oil Co. and Continental Oil Co.'s No. 1 Montgomery was also a failure at 1,500 feet.

Clay County

Allday Oil Corp.'s No. 1 Stine and others was plugged and abandoned at 1,819 feet.

Cooke County

Abernathy and Oil Operators Trust Co.'s No. 1 Sellers was abandoned as a dry hole at 3,000 feet. Petroleum Investment Co.'s No. 1 Hire & Seagraves was also a failure at 1,642 feet.

Roxana Petroleum Corp.'s No. 1 Dennis pumped 181 bbls. from sand at 1,441-46 feet. Same company's No. 2 Walterscheid, in the Muenster Pool, pumped 185 bbls. from sand at 1,692-1,709 feet.

Foard County

Fain-McGaha Oil Corp. and Roxana Petroleum Corp.'s No. 1 Mathews pumped 60 bbls. the first 24 hours and 52 bbls. the second day from sand at 1,484-92 feet, total depth 1,494 feet.

Haskell County

Western Exploration Co.'s No. 1 Scott was dry and abandoned at 2,003 feet.

Montague County

Continental Oil Co. and N. H. Martin's No. 1 Agee was dry and plugged at 2,410 feet. Continental Oil Co.'s No. 3 Crowe pumped 18 bbls. at 816-22 feet. Woods, Benton, Lesch & McCall's No. 2 Cunningham was a duster at 2,343 feet.

Wichita County

The location for Panhandle Refining Co.'s No. 11 Riley-Griffin was temporarily abandoned. G. R. Ridgeway's No. 2 Huddleston had dry sand at 1,782-86 feet and was plugged at 1,944 feet. C. W. Wallace's No. 2 Burnett was a failure at 2,985 feet and so was Jess Warren's No. 1 Perkins at 1,854 feet.

Hines, Staley & Wynne's No. 7 State Land pumped 20 bbls. from sand at 1,788-1,800 feet, total depth 1,802 feet. Koll-Tex Oil Corp.'s No. 1 Van Horn was dry and plugged at 1,937 feet. Thornton Lomax, Jr.'s No. 1 Foster & Allen was a dry hole at 1,960 feet.

Magnolia Petroleum Co.'s No. 4 Ramming-B pumped 28 bbls. from sand at 1,712-16 feet. Panhandle Refining Co.'s No. 5 Daume was a duster at 707 feet. Petroleum Producers Co.'s No. 2 Munger was a failure at 1,765 feet.

Wilbarger County

Landreth Production Corp.'s No. 1 Waggoner, Section 36, was dry and abandoned at 2,004 feet.

Young County

Christie & Maddox's No. 1 Hankins was a failure at 1,096 feet. Four other dry holes were Hamilton and others' No. 1 Robinson, at 1,002 feet; Holbrook & Woods' No. 1 Stewart, at 895 feet; Robert Oil Corp.'s No. 1 Graham-B, at 975 feet; and Young, Carey & Rhader's No. 1 Coke, at 1,000 feet.

Panhandle Refining Co.'s No. 7 McCluskey topped gas sand at 4,183 feet and found the lime pay at 4,199-4,202 feet. Initial output was 3,838 bbls. and this increased to 4,000 bbls. the third day. The estimated gas flow is 12,000,000 feet of gas testing 1 gallon per 1,000 feet.

Ranger District Completions

Callahan County

Brannon & Murphy's No. 2 Bennett-Booth had water sand with a show of oil at 1,675-93 feet; water sand at 1,695-1,703 feet and was abandoned at 1,717 feet. Heyman and associates' No. 1 Blakly was dry and abandoned at 1,200 feet. Mook Texas Oil Co. and Prairie Oil & Gas Co.'s No. 7 McClusky, an old gas well drilled deeper, made 180 bbls. initially from sand at 1,668-90 feet. Shaw and associates' No. 6 Miller made 100 bbls. initially from oil sand at 1,609-35 feet.

Coleman County

Culbertson Brothers' No. 1 Gray was drilled to 2,488 feet and plugged back to 2,486 feet to make 30 bbls. of oil and 2 bbls. of salt water initially from 2,475-86 feet. Douglas Drilling Co.'s No. 1 T. Weaver was dry and abandoned at 2,005 feet. Magnolia Petroleum Co.'s No. 18 Morris was dry and abandoned at 3,110 feet.

Brown County

Beale and associates' No. 1 Cavel is making 50 bbls. of fluid, 10 per cent water, from oil sand at 1,292-93 feet; gas sand at 1,288-92 feet. Bradstreet and associates' No. 9 Stout made 45 bbls. initially from oil sand at 1,155-83 feet. The well had broken water sand at 1,390-95 feet and was plugged back to 1,185 feet. Gibson Oil Corp.'s No. 20 Shore was shot with 3 quarts at 1,255-62 feet and made 25 bbls. initially. Location was abandoned for J. K. Hughes' No. 31 Shore. Humble Oil & Refining Co.'s No. 1 H. Byler made 91 bbls. initially from sand at 1,304-09 feet; total depth 1,312 feet. Selby Oil Co.'s No. 4 Ellis made 275 bbls. initially from 1,327½-34 feet.

Location was abandoned for The Texas Company's No. 68 Lowe, made 90 bbls. initially from sand at 1,291-1,316 feet. The Texas Company's No. 73 Lowe was completed in sand at 1,260-76 feet without production and will be used as a key well to restore gas to the sand with compressors. Wentz Oil Corp.'s No. 1 Andrews was dry and abandoned at 1,410 feet with a show of oil at 1,398-1,408 feet. Hurley Oil Co.'s No. 1 Davis was dry and abandoned at 1,704 feet. Hynes' No. 1 Nunn was dry and abandoned at 806 feet. Crader's No. 1 Ratliff was dry and abandoned at 1,605 feet. Irwin and associates' No. 1 Wright was dry and abandoned at 2,040 feet.

Kokomo Petroleum Co.'s No. 1 Collins made 110 bbls. initially after being shot with 100 quarts at 2,928-38 feet; total depth 3,410 feet. Prairie Oil & Gas Co.'s No. 1 Poe was dry and abandoned at 3,040 feet after three shots. The formation was shot at 2,967-3,040 feet with 150 quarts and with 355 and 150 quarts at 2,967-3,003 feet. Root and associates' No. 2 Watson is flowing 40 bls. per hour from sandy lime at 3,745-47 feet and was good for 5,000,000 feet of gas at 3,042 feet.

Shackelford County

J. S. Cosden's No. 1 Davis made 77 bbls. initially from sand at 1,468-75 feet. Higgins and Shearer's No. 1 Elliott was dry and abandoned at 1,025 feet. Milham Corp.'s No. 7 Moore made 40 bbls. initially from sand at 3,536-39 feet; total depth 3,641 feet. Morton and associates' No. 3 Davis was dry and abandoned at 1,714 feet. Sinclair Oil & Gas Co.'s No. 1 Nail was dry and abandoned at 3,505 feet. Taliaferro's No. 4 Proctor was dry and abandoned at 2,200 feet.

WEST TEXAS COMPLETIONS

Andrews County

Maer & Staniforth's No. 1 W. S. Taylor was dry and abandoned at 4,206 feet.

Concho County

Harry Adams and associates' No. 1 Price was dry and abandoned at 2,020 feet. Arkansas Fuel Oil Co.'s No. 1 S. A. Hartgrove was dry and abandoned at 3,236 feet.

Crane County

Pecos Oil Co.'s No. 11 University, formerly Cromwell & Pickerell's No. 11, was shot with 460 quarts at 2,787 to 3,013 feet and flowed 1,633 bbls. initial. Humble Oil & Refining Co.'s No. 9 University had the pay at 2,880 to 2,970 feet and was shot with 140 quarts at 2,895 to 2,965 feet and made 350 bbls. initial. Landreth Production Co.'s No. 7 State-Cowden-Anderson had the pay at 2,808 to 2,962 feet and was shot with 200 quarts at 2,822 to 2,939 feet and flowed 1,130 bbls. the first 12 hours. Same company's No. 8 on the same lease made 655 bbls. initial after a 260-quart shot at 2,823 to 2,953 feet. The well made 220 bbls. before the shot from pay at 2,808 to 2,962 feet.

Fisher County

Marland Oil Co. and Vacuum Oil Co.'s

(Continued on Page 243)

Late News from the Fields

OKLAHOMA

The Seminole Field produced 516,167 bbls. in the 24 hours ending Tuesday morning at 7 o'clock. This was a new peak. The production was divided as follows: Little River (Township 7-6), 1 well, 11,723 bbls.; Bowlegs (Township 8-6), 165 wells, 185,836 bbls., average per well 1,126 bbls.; Earlsboro (Township 9-5), 112 wells, 197,739 bbls., average per well 1,766 bbls.; Seminole (Township 9-6), 308 wells, 88,812 bbls., average per well 288 bbls.; Searight (Township 10-6), 42 wells, 32,077 bbls., average per well, 764 bbls. Total, 628 wells, 516,167 bbls., average per well 822 bbls.

Late completions and near completions in the Seminole Field include the following: Twin State Oil Co.'s No. 1 Hearn, C SE NE SE Section 2-9-5, sand at 4,324-40 feet, 3,507 bbls. in 22 hours; Barnsdall Oil Co.'s No. 2 D. Davis, C SE NW SE Section 11-9-5, sand at 4,307-18 feet, flowed 3,346 bbls. in 24 hours; Roxana Petroleum Corp.'s No. 1 Spencer, C SW NW Section 12-9-5, sand at 4,302-16 feet, 3,327 bbls.; Twin State Oil Co.'s No. 1 Jones, C SW NE SE Section 11-8-6, lime at 4,046-92 feet, swabbed 704 bbls. in 11 hours, drilling at 4,094 feet; Amerada Petroleum Corp.'s No. 5 Cowden, C NE SE SW Section 4-9-5, sand at 4,293-4,321 feet, 990 bbls. the rst 12 hours; same company's No. 4 Cowden, C SW SW NW Section 4-9-5, sand at 4,292-4,312 feet, shot with 20 quarts, 2,490 bbls. the next 24 hours; Indian Territory Illuminating Oil Co.'s No. 5 Bowlegs, C NW SE NE Section 22-8-6, sand at 4,286-99 feet, shot with 20 quarts, put on air, made 1,356 bbls. the next 24 hours.

A second well was added to the pool opened by the Pure Oil Co. in Township 18-4, Payne County, when the Payne County Pipe Line Co.'s No. 1 Knots came in flowing 2,400 bbls. a day. This well, NE cor. SE SE Section 7-18-4, was then pinched in and is flowing 800 bbls. a day through a three-quarter inch choke and with 800 pounds back pressure. It is a Wilcox sand operation.

The Carter Oil Co. has a showing of

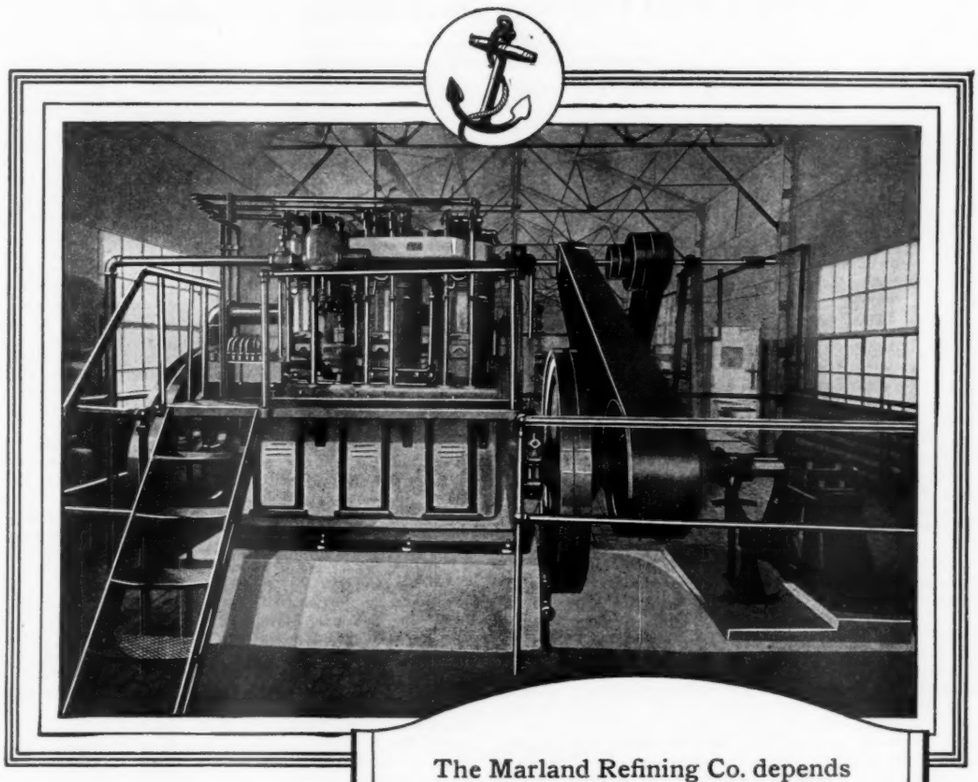
(Continued on Page 243)

WILDCAT OPERATIONS IN WEST TEXAS

Week ending July 23

Company, Farm and Location—	Remarks—
ANDREWS COUNTY	
Calvin & Belt's No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Rigging up.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 8, Blk. 73, Public School Land	Rigging up.
Sartain Oil Co. et al's (was Deep Rock Oil Co.'s) No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land, elev. 3,167 feet.	Shut down 100 ft.
B. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Spudded and shut down.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-52, Public School Land Sur., elev. 3,156 ft.	Top salt 1,375 ft.; shut down for orders 3,500 ft.
BORDEN COUNTY	
J. L. Kennedy's No. 1 J. S. York, SE cor. Sec. 322, Blk. 97, H. & T. C. Sur.	Shut down for orders 1,000 ft.
BREWSTER COUNTY	
McPhail & Kemper's No. 1 Brown, C Sec. 43, Blk. WJC-8, T. C. R. R. Sur.	Location.
McPhail & Kemper's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Straightening hole 335 ft.
COKE COUNTY	
W. H. Brown et al's No. 1 W. L. Foster, SE cor. Sec. 142, Blk. 2, H. & T. C. Sur.	New location; building rig.
Danciger O. & R. Co.'s No. 1 Mrs. Byrnes, Clinton Sur.	Shut down for casing 602 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	Shut down 1,215 ft. for 10-in.
CONCHO COUNTY	
Associated Oil Co.'s No. 1 Sam Waring, Sec. 2,035, J. W. Godhardt Sur.	Drilling 1,637 ft. lime.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur., Elev. 1,718 feet	Fishing casing 1,930 ft.
CRANE COUNTY	
Gulf Production Co.'s No. 2 Waddell, NE cor. Sec. 10, Blk. B-25, elev. 2,741 ft.	Top brown lime 3,068 ft.; set 6-in. 3,077 ft.; drilling 3,095.

(Continued on Page 85)



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DESIGNERS MANUFACTURERS

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DALLAS, TEX. TULSA, OKLA. CASPER, WYO.

Gulf-Sanders Area Panhandle Topic

Area East of Wilcox-Pampa Regarded as Likely To Be Next Flush Field That May Check Decline of Production

By J. H. Dameron
Staff Correspondent, Texas Panhandle Fields

AMARILLO, Tex., July 25.—Gray County, with a series of developments throughout the past week, claimed the attention of Panhandle operators principally with the developments in the Gulf-Saunders area, finds in wildcat territory, and with the announcement of a small crude purchasing company it would pay a 10-cent premium for Gray County crude.

Developments in the Gulf-Saunders area, a couple of miles east of the Wilcox-Pampa Pool, were the most closely followed because that area is expected to yield the next flush production in Panhandle and check the decline of the field. Gray County crude is much in demand because of its high gravity. Gulf Production Co.'s No. 1 Saunders, SE SW Section 40, Block 3, which came in at 2,970 to 3,080 feet making 3,100 bbls. after a heavy shot, is now making around 800 bbls. daily. Of the several wells now in the pay in that area none have appearances of being as good a well as the Gulf company's No. 1 Saunders.

Diagonally offsetting the producer to the southeast, Atlantic Oil Producing Co.'s No. 1 Saunders, NW NE Section 39, is a failure at 3,050 feet and 1 foot above sea level. It is to be deepened. But a mile to the east, the Atlantic company's No. 1-D Combs & Worley is showing for a good producer. To the south of the discovery lease, Roxana Petroleum Corp. is drilling four wells, two of which are in the pay and showing for fairly good wells. The following is the status of the several wells drilling in that area:

Status of Drilling Wells

Roxana Petroleum Corp.'s No. 1 Worley, NE NW Section 39, has 500 feet of oil in the hole, and 5-inch casing is being set at 3,056 feet. No. 2 to the west is drilling at 2,630 feet. No. 3, NE NW NW Section 39, topped granite wash pay at 3,055 feet and was shot in granite wash at 2,980 to 3,080 feet. The well made 40 bbls. the first hour and then bridged. It made 360 bbls. the first 24 hours after the shot. The well is being cleaned out and is making 10 bbls. per hour. Roxana corporation's No. 4 Worley, to the west of No. 3, is drilling at 2,000 feet. Roxana corporation's No. 1 Coombs, NW NE Section 34, is spudding.

Gulf Production Co.'s No. 2 Saunders, SW SE SW Section 40, is drilling at 1,900 feet. Wilcox-Pampa Oil Co.'s No. 1 Worley, SE SW SW Section 40, was shot with 310 quarts at 2,958 to 3,034 feet and made 130 bbls. The well was deepened to granite wash at 3,100-15 feet and made 340 bbls. the first 12 hours. Prairie Oil & Gas Co.'s No. 1 Comley, SE cor. Section 57, had a show of gas at 2,818 feet, 14,000,000 feet of gas at 2,870 to 2,920 feet. Six-inch is being set at 2,933 feet. Empire Gas & Fuel Co.'s No. 1 Saunders, SW SE Section 40, was shot with 240 quarts at 3,050 to 3,113 feet, and the Empire company's No. 1 Hood, SW SE Section 33, had 2,000 feet of oil in the hole from 2,945 to 3,065 feet. The formation was shot with 470 feet and the hole bridged. Atlantic Oil Producing Co.'s No. 1-D Combs & Worley, NE NW Section 34, is drilling at 3,017 feet with 1,000 feet oil in the hole. The first oil was found at 2,910-20 feet, and the second oil at 2,940-48 feet, and the third pay at 2,965 to 3,017 feet.

Several of the wells are expected to be connected to pipe lines during the week, and the apparent extension of the territory 1 mile to the east is expected to enliven the drilling there.

During recent weeks several buyers have been active in obtaining Gray County crude and connections, and, coupled with that fact and the decline in production of the county, one small crude purchasing company started paying a 10-cent premium for Gray County crude. Crudes produced in Gray and Wheeler Counties are "sweeter" crudes than the bulk of Panhandle crude and free of the sulphur content present in the other counties' crude. They are bought on gravity price schedule ranging from 80 cents to 1.12 cents. The purchasing company has a small gathering system in the field and a loading rack at Pampa.

Interest was drawn to the southeastern part of Gray County late in the week when St. Clair Petroleum Co.'s No. 1 Crews, NW cor. Section 9, Block 25, formerly Amos and associates' No. 1 Crews, was reported with 300 feet of oil in the hole. The well is north of Alanreed. Total depth of the hole is 3,005 feet, and it is reported the formation is to be shot. No. 1 Crews is in rank wildcat territory. The oil tested 41 gravity.

Shamrock Petroleum Co., Wichita Falls, bought out half interest in the Gray County Petroleum Co.'s holdings in Gray County, which total 960 acres, and plans the drilling of three tests in the near future. It is reported the consideration was $25,000 cash and $75,000 out of one-fourth of the oil produced. One well will be the completion of Gray County company's No. 1 Chapman, Section 70, Block 25, H. & G. N. Survey, a second in Section 44, Block 25, and near the Travis and associates' No. 1 Black, a wildcat producer in the McLean district. The third location will be announced at a later date. The Shamrock company bought the NE quarter of Section 82, Block B-2, near granite wash production south of the Pampa Pool.

Northwest of the Pampa Pool, a test in the pay and with oil in the hole was junked because casing which parted could not be fished out. Roxana corporation's No. 1 McConnell, Section 174, Block 3, offsetting oil production in between the McConnell Pool in Carson County and the Pampa Pool in Gray County, had 30,000,000 feet of gas at 3,050 to 3,113 feet.

Panhandle Wildcats

Few other wildcats in the Panhandle attracted attention during the week. In Ochiltree County, W. G. Burton's No. 1 Stickler, Section 579, Block 43, was a hole full of salt water at 3,940 feet, and 6-inch pipe is being straightreamed. The Panhandle's deepest drilling wildcat, Big Bend Oil Co.'s No. 1 Mrs. H Ledrick, which had a show of gas at 4,990 feet, is drilling at 5,015 feet without the gas increasing. Three-inch pipe was set at 4,992 feet, where an oil show was found.

In the Oklahoma Panhandle, W. R. Ramsey is reported to have decided to drill in Section 34-4n-1e, Cimmaron County. Skaer and associates' No. 1 in Beaver County of the Oklahoma Panhandle was a hole full of water at 3,345 feet and was abandoned at 3,514 feet.

Considerable leasing is going on to the northwest of the Panhandle Field proper, especially in Moore and Sherman Counties. In the South Plains area, a wildcat campaign is moving ahead steadily. Southern Exploration Co. is leading the play there with more than 400,000 acres under lease in Briscoe, Cottle, Floyd, Hale, Motley and Swisher Counties. The company is reported to be financed by eastern capital, principally Benedum & Trees of Pittsburgh, Pa. The largest lease is on the Matador ranch, which consists of around 300,000 acres. The company plans to drill 18 tests to 4,000 feet unless production is found higher up. It is reported the company plans to divide its undertaking into 16 units and sell units either to major companies or individual operators.

Since the 400-foot showing was discovered in Hale County several weeks ago, the South Plains territory has proven attractive to operators. Several tests over the wide territory have been started. However, major operating companies have been working the territory with geophysical instruments for several months.

Production Drops

Production of the Panhandle showed another sharp decrease during the past week when it declined 3,880 bbls. in daily average production. Hutchinson County was off 3,300 bbls. The Shamrock Pool in Wheeler County was the only pool showing an increase, and Carson County dropped below 10,000 bbls. daily. Production of all major companies showed a decline except Marland Oil Co. Production by counties follows:

Carson	9,895
Gray	9,270
Hutchinson	88,580
Moore	200
Potter	35
Wheeler	2,395
Total	110,375
Total last week	114,255
Loss	3,880

Field Operations

Not much change was noted in the total field operations for the entire Panhandle area made up by scouts, and which includes tests in the Oklahoma Panhandle and part of New Mexico. A total of 346 operations were reported for the entire area as follows: Ten first reports; 30 locations carried over from previous reports; 14 rigs building; 17 rigs standing; 7 rigging; 151 wells drilling; and 117 wells shut down.

While the paying of a 10-cent premium for Gray County oil is indicative of a tighter Panhandle crude market, shipments from the field declined sharply during the past week. According to estimates, there were only 6,000 bbls. going into storage daily two weeks ago, while this past week it is estimated that 27,000 bbls. went into storage daily.

Both pipe line and tank car shipments dropped off. Two major pipe lines shipping crude to the Gulf Coast moved approximately 56,000 bbls. daily, against approximately 64,000 a week before. Tank car shipments for the past week totaled 1,055 cars. Tank car shipments were as follows: Pampa, 290 cars; Borger, 718 cars, and Panhandle, 47 cars.

The big loss of production in Hutchinson County was traced principally to the McIlroy Pool when Cockrell-McIlroy Oil Co.'s No. 1 Cockrell, the record well of the field, was drilled into salt water and drowned out. The hole was plugged back and most of the water cut off, and during the past week the well was revived and averaged 4,850 wells. The well was a 10,000-bbl. gusher. In the same pool, The Texas Company is deepening an old well in Section 1, Block Y, in the northwest edge of the pool. The well will be a 4,000-foot test.

More interest was displayed in Moore County when Shadler Brothers' No. 1 John Lowery, Section 237, Block 44, found a pocket of gas in red beds at 2,485 feet. The big lime, Panhandle's most

(Continued on Page 190)

WILDCAT OPERATIONS IN PANHANDLE

Week Ending July 23, 1927

Company, Well, Farm Name, Section and Block—	Remarks—
ARMSTRONG COUNTY	
Meadows et al's No. 1 E. D. Harrell, C Sec. 100, Blk. A-6, A. & G. Sur.	Drlg., 1,150 ft.
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H. & G. N. Sur.	Spudded and temp. abd., 298 ft.
BRISCOE COUNTY	
C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B. S. & F. Sur.	Fish., 1,600 ft.
CARSON COUNTY	
Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y, T. T. R. R. Sur.	Temp. abd., 1,980 ft.
W. A. Gamble's No. 1-A John Dies, 30 ft N of cen., Lot 1, Blk. 11, Panhandle Townsite, Sec. 69, Blk. 2, T. T. R. R. Sur.	Drlg., 1,340 ft.
Marland Oil Co.'s No. 1 Burnett-J, C NE NE, Sec. 121, Blk. 5	Small spray oil, 2,072-3,130 ft; salt water, 3,140-45 ft; dry granite wash, 3,245-88 ft; drlg., 3,-545 ft; red sand.
Marston Oil Co.'s No. 1 J. L. Noel	Pulling 6-in., 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 22, Blk 2-Y, T. T. R. R. Sur.	First gas, 2,120 ft; making, 30,-000,000 ft; drlg., 2,370 ft.
Stubblefield et al's No. 1 E. Cooper, SW cor. NE Sec. 5, Blk. 9, I. & G. N. Sur.	Drlg., 2,325 ft.
Vitek Oil Co.'s No. 1 J. H. Eller, NE cor. NW Sec. 200, Blk. 3	Spudded and S.D.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D., 510 ft. for casing.
CHILDRESS COUNTY	
Brookins et al's No. 1 Mrs. Givens, 600 ft N and W of SE cor. Sec. 676, W & M. W. Sur.	Spudded and S.D.
Continental Oil Co. & Marland Oil Co.'s No. 1 B. P. Smith, Cen. NE, Section 14, Blk. 9	Rig on ground.
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 786, Haggard Sur.	Spudded and S.D.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	S.D., 2,840 ft. cor. meas; 600 ft. water in hole.
COLLINGSWORTH COUNTY	
Harmon & Deems' No. 1 Wilson (Scott), Sec. 44, Blk. 31, Wischkamper's No. 1 fee, C SE Sec. 93, Blk. 16	Loc.; temp. abd. 100 ft. salt water in hole from 2,-623 ft. S.L.M; S.D.
COTTLE COUNTY	
Exploration Co.'s No. 1 Richards	Spudded and S.D.
Sun Oil Co.'s No. 1 Tom Burnett, C NW SE, Sec. 6, Blk. L, S. P. R. R. Sur.	S.D., 2,590 ft. for orders.
DALLAM COUNTY	
James et al's No. 1 fee, Sec. 9, 47½	S.D., 2,870 ft.
Wood Bros. et al's No. 1 Capitol Synd., Sec. 19, Blk. 17,	Cementing 6-in., 3,375 ft.
Marland Oil Co. et al's No. 1 Capitol Synd., Sec. 36 Blk. 18, Capitol Synd. land	C.O., 950 ft; to be 4,500-ft. test.
DEAF SMITH COUNTY	
Julien & DeGrace's No. 1 Mrs. R. A. Hindley, Sec. 47, Blk. K-8	S.D., 520 ft.
Red Hill Oil Corp.'s No. 1 Barrett, Sec. 93, Blk. K-4,	S.D., 710 ft.
DONLEY COUNTY	
A. F. Drlg. Co.'s No. 1 F. E. Harington, Sec. 39, Blk. 3-C	1,200 ft. water, 3,115-22 ft; show gas, 3,140-60 ft; dry granite wash, 3,260-93 ft; S.D., 3,498 ft. for water.
DICKENS COUNTY	
Bowser Mickels et al's No. 1 Pitchford ranch, Sec. 1, Blk. 1, Sam Lazarus Sur.	S.D., 3,355 ft; corrected depth.

(Continued on Page 193)

DUNN TOOLAGRAM

DUNN Safety AUTOMATIC SPRING HOOK

for Rods and Tubing

The new and greatly improved design of this hook is immediately noticeable. It is entirely different from ordinary hooks in the method of handling and has several exclusive features which make it the outstanding tool of this type. It is exceptionally fast in operation and rates one hundred per cent safe. No. 0: Weight 20 lbs. Capacity 15 tons. No. 1: Weight 35 lbs. Capacity 20 tons. No. 2: Medium weight, Capacity 45 tons. No. 3: Heavy, Capacity 75 tons. No. 4: Extra Heavy, Capacity 125 tons. Sent on trial, prepaid, without obligation.

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OIL WELL DUNN TOOLS
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Seminole Passes Half Million Mark

Production for 24 Hours Ending Monday Morning Totals 512,647 Bbls. Twin State Well Extends Earlsboro Pool

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

Production of the greater Seminole area in Oklahoma passed the 500,000-bbl. a day mark for the first time when the output of the area reached a total of 512,647 bbls. for the 24 hours ending Monday morning of this week. During the past week, production of the field averaged 493,910 bbls. daily, production during that period not falling below 490,000 bbls. on any day. There were various new operations announced around the Indian Territory Illuminating Oil Co.'s Little River well in Section 1-7-6, and there are now about 20 active operations in this district.

The Oklahoma fields continue to plod along with scant attention being paid to any area except Seminole. The most important well of the week was the Twin State Oil Co.'s No. 1 Hearn, SE cor. NE SE, Section 2-9-5, the the Earlsboro district of Seminole, which had the Wilcox sand 4,324-42 feet and is flowing 165 bbls. an hour. This well is five-eighths of a mile from production, and extends the Earlsboro Field to the northeast. The large output of this well will give stimulus to the drilling activity of this region, and will very likely result in the starting of some 30 or 40 more wells.

In the Earlsboro region, the Roxana Petroleum Corp.'s No. 1 Spencer, SW cor. NW, Section 12-9-5, flowed 2,040 bbls. the first 16 hours from the Wilcox sand 4,302-13 feet. In this same region, the Mid-Kansas Oil & Gas Co.'s No. 1 Anderson, NE cor. NE, Section 14-9-5, made 4,137 bbls. the first 24 hours from sand 4,291-4,302 feet. The Barnsdall Oil Co.'s No. 2 Wasutka, NW cor. NE SW, Section 12-9-5, had the sand 4,240-66 feet, and made 1,512 bbls. the first 12 hours. Skelly Oil Co.'s No. 1 Spencer, SE cor. SW NW, Section 12-9-5, had the sand at 4,265-84 feet, and was flowing 3,840 bbls. daily when it was shot with 25 quarts. The hole has bridged, and the well is being cleaned out.

The Twin State Oil Co.'s No. 1 Jones, SW cor. NE SE, Section 11-8-6, had sand at 4,047-87 feet, and the well swabbed 1,275 bbls.

In the Pierson Pool, the Pierce Petroleum Co.'s No. 1 Ward, NE cor. SW, Section 30-7-4, found a hole full of water in the Wilcox sand at 4,342 feet. This is a disappointment, as it was hoped that some of the wells in this Hunton lime pool would find the Wilcox sand productive.

In the Osage country, the Gypsy Oil Co. has drilled in another well in the Burbank Field which offsets an unleased tract. This is becoming the popular habit, and will keep the Osage Indian Agency busy arranging its sales to conform to the drilling schedule. The new well is No. 6, NW cor. NE SE, Section 28-27-6, and it is flowing 72 bbls. an hour from the regular Burbank sand at 2,914-66 feet.

Seminole Production

The detailed list of the Greater Seminole Field by companies and leases on Friday, July 22, was:

Bowlegs

Company and farm—	Wells	Prod.
Amerada:		
Rasco	8	10,440
Atlantic:		
Baker	2	1,550
Fleet	3	2,098
Grayson	1	3,010
Jones	2	240
Barnsdall:		
McNac	1	80
Murrow	1	980
Carter:		
Bowlegs	2	3,640
Harjoche	6	4,365
Hilly	1	2,370
McGeisey	1	.....
Walker	2	1,775
Wise	5	9,505
Empire:		
Lacy	5	4,224
Gypsy:		
Brown	1	90
Walker	7	3,915
Wise	1	.....
Indep.-Marland:		
Coker	1	875
Ind.-Terr.:		
Barnett	2	2,329
Billington	2	2,589
Bowlegs	4	4,304
Davis	3	2,948
Fay	1	2,647
Goforth	9	8,495
Livingston	10	17,336
Walker	8	8,390
Wilmont	4	5,285
Wolf	1	1,323
Youngblood	4	1,894
House	1	12,070
McColloch:		
Bowlegs	1	1,000
Mid-Continent:		
Baker	3	5,808
Bowlegs	1	415
Hutke	1	95
Minnehoma:		
Bowlegs	4	3,332
Prairie:		
Gahagan	2	2,200
Harber	6	8,660
Templeton	1	1,057
Whitney	3	780
Pure:		
Reed	14	21,664
Strothers "E"	1	.....
Roxana:		
Taylor	5	4,146
Shaffer:		
Lacy	3	3,150
Sinclair:		
Adams	1	15
Bowlegs	1	325
Ellen	1	1,740
Harjo	3	5,050
Jones	1	2,450
Taylor	2	2,515
Walker	3	5,825
Texas:		
Reed	4	8,370
Tidal:		
Harjoche	2	3,515
Twin State:		
Jones	1	1,080
Total	163	201,909

Earlsboro

Amerada:		
Anderson	4	5,152
Cowden	2	20,510
Barnsdall:		
Pack	1	2,319
Sullivan	1	504
Davis, D.	1	98
Gibson	4	11,272
Hearn	1	35
Peter	3	760
Sebolka	1	3,444
Smith	1	149
Wasutke	2	4,308
Carter:		
Payne	1	2,655
Continental:		
Spencer	1	7,215
Crosbie:		
Bryant	2	12,840
Empire:		
Edmundson	1	5,509
Gypsy:		
Bora	1	.....
Carter	1	865
Earl	1	.....
McFarland	2	880
Noble	1	4,023
Peter	2	450
State	4	1,650
Strain	1	.....
Independent:		
Knapp	1	515
O'Dell	2	11,955
Sullivan	1	252
Inter-Ocean:		
Payne	1	488
Magnolia:		
Bryant	2	2,325
Holmsley	3	7,768
Lena	1	388
Simpson	1	2,691
Sparks	2	3,112
Mid-Continent:		
McCumber	3	8,750
Mid-Kansas:		
Anderson	1	4,450
Phillips:		
Graham	4	1,020
Philmack:		
Dobbs	2	.....
Prairie:		
Baker	1	50
Davis	2	5,285
Stidham	3	5,650
Roxana:		
Spencer	2	6,130
Sinclair:		
Foreman	1	.....
Skelly:		
Spencer	1	.....
Texas:		
Rodgers	1	11,240
Tidal:		
Watkins	2	6,415
Twin State:		
Baker	1	4,445
Shallow production	24	3,480
Total	101	170,873

Seminole

Carter:		
B. Carter	2	240
J. Carter	3	80
F. Carter	3	300
Creamer	1	0
R. Cudjo	4	1,275
W. Cudjo	2	255
Gilliland	1	465
Grisso, W.	7	915
Knapp	3	1,290
Killing, M.	10	11,445
Killing, G.	4	2,175
Lukes	6	1,060
Ponder	1	230
Simpson	2	295
Strother	3	3,185
Vierson	4	610
Amerada:		
Fixico	4	1,868
Killing	4	459
Rentie	3	1,225
Atlantic:		
Cudjo, N.	4	700
Barnsdall:		
Carter	9	3,804
Henry	2	636
Jones	4	1,415
Empire:		
Gross	2	1,807
Wilson	3	700
Gypsy:		
Butler	3	750
Carter	8	2,040
Cudjo	4	859
Fixico	5	225
Harjo	3	1,683
Wolf	7	852
Independent:		
P. Fixico	4	420
Harjo	2	1,038
Independent & Garland:		
T. Fixico	8	683
Independent & Interocean:		
Jones	4	798
Indian Territory:		
Bowlegs	10	3,828
Gooden	4	641
Harjo	4	651
James	4	1,028
Marcey	1	0
Reed	3	38
Kingwood:		
Johnson	5	1,702
Magnolia:		
Franks	4	1,204
Mid-Continent:		
Rentie	9	1,713
Tayeche	7	485
Mid-Kansas:		
Pressley	1	26
Johnson	1	759
Phillips:		
Strothers	3	667
Philmack:		
Butler	3	4,155
Prairie:		
Gross	5	65
Mason	1	1,196
Spencer	1	20
Strother	8	1,990
Pure:		
Strother, A.	17	2,444
Strother, B.	3	3,416
Strother, C.	1	0
Roxana:		
Harber	2	290
Lashley	2	50
Sinclair:		
Carter	2	15
Cudjo, A.	6	1,660
Cudjo, B.	2	640
Dicey	1	510
Fixico	4	695
Slick:		
Cudjo	3	1,155
Franks	8	1,130
Giblet	1	1,536
Superior:		
Mayhue	4	1,392
The Texas Company:		
Mayhue	1	290
Tidal:		
Carter	5	2,040
Fixico	8	825

BIG GAS AND A SHOWING OF OIL IN AN EDDY COUNTY DEEP TEST

By Special Correspondent

ARTESIA, N. Mex., July 23.—The most interesting news of recent times was the discovery of a big initial gas production in the Texas Production Co.'s No. 1 NE SW Section 25-16-31, Eddy County, which blew in at what was at first estimated at 25,000,000 feet of gas from sand around 3,885 feet. The well, with the tools in the hole, and partly shut in, was later reported to be making 11,500,000 feet of gas and a spray of oil. It was then shut in for orders.

A number of tests that were started and have been shut down for quite a long period have been taken off the drilling reports until such time when operations are resumed. At the same time several tests were started. In Eddy County the location for R. D. Compton's No. 2 State, NW SW NE Section 2-18s-27e has been abandoned. Ward and others' location on which there is a rig in the C SW Section 27-11s-34e has been temporarily abandoned. The Maljamar Oil Co.'s location in the SW cor. Section 13-17s-32e has been abandoned. In San Miguel County the Santa Fe Petroleum Co.'s test in NW cor. SE SW Section 3-13n-15e has been temporarily abandoned at 650 feet.

Progress is reported on a considerable number of drilling operations. The Gibbon Oil Co.'s No. 1 permit, Section 25-8n-32e, Quay County, was drilled to contract depth, 3,500 feet, and shut down. The Ohio Oil Co.'s No. 1 Smith, Section 24-7n-29e, was drilling in salt at 2,425 feet.

In Union County, Thomas and others have a new rig up for No. 1 Cook, SE cor. Section 27-24n-33e.

In Chaves County the Buffalo-Roswell No. 1 State, Section 25-11s-25e was drilling at 4,215 feet. The Arena Oil Co.'s No. 1, in Section 18-13-31e was drilling below 200 feet. The Texas Production Co.'s No. 1 Dunken Dome, Section 16-1s-27e, was drilling at 2,624 feet.

In Eddy County W. A. Stone was shut down at 2,122 feet with the hole full of water in No. 1 Knulick, Section 21-17s-26e. The Wooley-Jones No. 1 permit, C SW Section 21-17s-25e, drilled to 3,460 feet and shut down. Skelly Oil Co.'s No. 1 NE cor. Section 22-17s-31e, set 5 3-16-inch casing at 4,260 feet. Midwest Refining Co.'s No. 1 Terry, Section 15-18s-26e, was drilling at 2,617 feet. R. D. Compton has made a new location, SW cor. NW SW Section 4-18s-27e and was rigging up to start drilling. Flynn, Welch & Yates' No. 50, NE cor. NW SW Section 3-18s-28e, has been spudded in, likewise Operators Oil Co.'s No. 16 State, NW cor. NW NE Section 4-18s-28e. George Getty, Inc., in its No. 1, SE cor. Section 14-20s-29e, after drilling to 1,397 feet decided to shoot a showing in sand at 1,372 feet where there was a showing of oil. The Ohio Oil Co. & Marland Oil Co. drilled to 3,240 feet and shut down in No. 1 permit, Sw cor. Section 13-22s-29e.

In Guadalupe County the Navajo Oil Co. has shut down No. 1 permit. Section 10-3n-17e at 1,725 feet. McNabb and others' No. 1 permit, SW cor. SW Section 24-5n-16e, was spudded in.

In Lea County A. D. Morton has rig up for No. 1, C. SW SW Section 28-11s-38e. The Maljamar Oil Co. has rig up for No. 1 permit, SE cor. NE NE Section 15-17-32e. The Texas Production Co. was drilling at 5,195 feet, in No. 1 permit, SW cor. Section 34-17s-33e. Inglefield & Bridges' No. 1 State, SE cor. Section 4-17s-34e, was fishing for 8¼-inch pipe, total depth 4,876 feet. Texas Production Co. had run 12½-inch pipe to 700 feet in No. 1 permit, SE cor. Section 4-20s-34e. Texas Production Co. set 15½-inch pipe at 570 feet in No. 1 permit, SE NE NW Section 22-26s-37e.

In Torrance County the Duran-Doane Oil Co.'s No. 1, SW NE Section 31-3n-15e, was fishing for tools at 1,267 feet. Bluhall Oil Co.'s No. 1 permit, NW SW Section 7-4n-10e, was ready to spud in. Randle and others were drilling below 4,045 feet in No. 1 Estancia, NW Section 12-6n-10e.

The recent organization of the Conservation Oil Co, by which all the leases surrounding a certain wildcat well in Oklahoma have been pooled for the methodical development of the oil in the ground on a strict conservation basis is a big step in the right direction

The leaseholders concerned are to be congratulated for their sane progressiveness Their experiment will be watched with great interest by the industry

Some such plan, magnified to national scope, will insure the future stability of the oil business

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Harjo, D.	1	1,405
Harjo, T.	6	234
Mahardy	3	1,045
Tayeche	2	945
Turman:		
Cudjo	4	740
Grisso	1	356
Jones	4	1,546
Total	305	90,160
Searight		
Carter:		
Davis	5	6,010
Frazier	5	6,500
Kiker	1	40
Scott	1	40
Gypsy:		
Cudjo	2	410
Mid-Continent:		
Grayson	2	3,005
Soloche	2	1,725
Prairie:		
Cannon	1	10
Carter	1	10
Houck	1	10
Kincaid	8	2,480
Wiemer	1	20
Pure:		
Aldridge	2	4,609
Roxana:		
Strother	1	1,894
Sinclair:		
Polly	2	2,410
Twin State:		
Cudjo	1	1,052
Wilcox:		
Chupco	2	2,120
Total	42	32,345
Grand total	611	495,287
Shallow	25	3,490
Hunton	58	8,600
Wilcox	528	483,197

Seminole Production

The status of the operations in the Greater Seminole Field on July 23 was:

Operations—	Semi-nole	Sea-right	Bow-legs	Earls-boro	Total
Locations	1	2	8	27	38
Rigs	2	1	19	38	60
Drilling:					
Less than 2,000	9	9	19	42	79
Less than 3,099	11	7	17	28	63
Less than 3,700	5	7	28	32	72
Below 3,700	39	6	92	83	220
Total	67	32	183	250	532

Caddo County

Cole-Lafayette Co.'s No. 1 McKenna, NW cor. SW NE Section 5-5-9w, has been completed for 50 bbls. at 2,375 feet.

Creek County

Dixie Oil Co. has the rig on the ground for No. 5 Francis, SW cor. SE SW SW Section 5-17-10. Skelly Oil Co. moved the rig out for No. 2 Yellowhead, SW cor. SE NW Section 32-17-10. Thompson & Black's No. 3 Wilson, NW cor. NE SW Section 16-17-11, is spudding. C. G. Tibbens' No. 1 Keetch, CWL E half NW SE Section 6-14-9, is drilling at 300 feet.

Roxana Petroleum Corp.'s No. 2 Smith, NW cor. NE SE Section 18-19-9, had a hole full of water in the Wilcox sand at 2,980-82 feet and plugged back to the Bartlesville sand at 2,195-2,230 feet where it made 20 bbls. after a shot of 60 quarts. Regal Oil & Gas Co.'s No. 17 Barnett, NE cor. SW SW Section 13-18-11, is making 15 bbls. from the Glenn sand at 1,425-1,558 feet where it was shot with 80 quarts. Roland Oil Co.'s No. 1 Wilson, SE cor. NE SE Section 29-16-9, is dry and abandoned at 1,480 feet. C. G. Tibbens' No. 2 Carmen, SW cor. SE NW Section 29-15-9, was completed for 3,000,000 feet of gas in the Bruner sand at 900-902 feet.

Grady County

Badgett & Hughes made location for No. 1 Tendell, NE cor. NW Section 22-5-8w. Watchorn Oil & Gas Co. has the rig up and the tools in for No. 1 Huling, NW cor. Section 13-4-8w. Carter Oil Co. is rigging up standard tools to deepen No. 5 Walford, SW cor. SE Section 16-3-5w, Carter-Knox Pool. No. 3 Goza, NE cor. SW NE Section 2-2-5w, an old producer, has been shot with 30 quarts in sand at 1,435-55 feet and is estimated at 30 bbls., and is now cleaning out.

Carter Oil Co.'s No. 2 White, SW cor. SE SE Section 21-3-5w, Carter-Knox Pool, is making 42,000,000 feet of gas from sand at 1,774-80 feet. No. 5 Wham, SW cor. SE NE Section 34-3-5w, has been abandoned at 2,590 feet.

Grant County

Marland Oil Co. and Waggoner made location for No. 1 Frantz, NE cor. SE Section 35-28-3w.

Kay County

Comar Oil Co.'s No. 1-A Buell, SW cor. NE Section 21-29-1w, North Braman Pool, was deepened from 1,921 feet to the Wilcox sand at 3,323-64 feet and completed for 320 bbls. Junction Oil Co.'s No. 2 Roach, C SW SE Section 30-29-1, was deepened from 3,282 feet to 3,386½ feet where it encountered water and was plugged back to 3,283 feet and is making 3 bbls. Comar Oil Co.'s No. 1 Jennings, NW cor. SE Section 19-27-1w, Blackwell district, was completed for 4,700,000 feet of gas in the Wilcox sand at 3,762-3,819½ feet. H. A. G. Oil Co.'s No. 1 McFadden, NE cor. SW SW NE Section 28-27-1, has been shut in for 1,500,000 feet of gas from sand at 781-88 feet.

Lincoln County

Flynn, Morgan and others' No. 1 Hemmer, NE cor. Section 11-16-5, is dry and abandoned at 4,110 feet in the Wilcox sand topped at 4,105 feet.

Pawnee County

Privett Drilling Co. made location for No. 2 Kline, NW cor. NE SE Section 10-20-6. No. 1 Curtis, SE cor. NE SE Section 28-21-6, has been abandoned at 3,091 feet.

Payne County

Fern Oil & Gas Co. and others made location for No. 1 Jackson, NW cor. NE SW Section 15-19-5. Marland Oil Co.'s No. 4 Blue, NE cor. NW SE Section 7-18-5, drilled to 3,933 feet and was then plugged back to sand at 2,945-59 feet where it made 10 bbls. after being shot twice.

Osage County

Kewanee Oil & Gas Co. made location for No. 1, NE cor. SW NW, Section 26-29-11. M. M. Lefer made location for No. 13, NE cor. NW NW Section 1-28-10. Sand Springs Home made location for No. 105, CNL NE Section 10-21-9. Location was also made for No. 106, C NE SW Section 29-20-11.

Tidal Oil Co.'s No. 1, NE cor. SW Section 32-29-9, had dry broken sand at 1,619-40 feet and has been abandoned at 1,650 feet. J. J. Fitzstevens' No. 1, SE cor. NW, Section 16-28-8, is making 30 bbls. from chat at 2,394-2,405 feet. Galt-Brown Oil Co.'s No. 1, SE cor. NE Section 20-27-7, drilled to 2,918 feet, finding the Burbank and Bartlesville sands dry, and has been abandoned at this depth. Indian Territory Illuminating Oil Co.'s No. 368, NE cor. SW Section 22-27-11, was completed for 7,500,000 feet of gas in the lime at 1,850-72 feet. Kewanee Oil & Gas Co.'s No. 1, NW cor. NE Section 3-26-6, was completed for 700 bbls. naturally from the Burbank sand at 2,757-2,825 feet, total depth 2,835 feet. Phillips Petroleum Co.'s No. 8, NE cor. SE SW Section 20-26-6, Burbank Pool, had the Burbank sand at 2,955-3,012 feet, drilled to 3,015 feet where it has been abandoned after swabbing some oil. Indian Territory Illuminating Oil Co.'s No. 227, SW cor. NE Section 1-25-11, was completed for 1,000,000 feet of gas in lime at 1,830-52 feet. No. 365, SE cor. NE NW, Section 1-25-11, is making 7,000,000 feet of gas at total depth of 1,801 feet, the gas coming from Oswego, Bartlesville and Burgess formations. Oklahoma Natural Gas Corp.'s No. 771, SE cor. NE SE Section 33-22-11, was completed for 1,000,000 feet of gas in the Oswego lime at 1,116-1,120 feet.

Tulsa County

North and others' No. 1 Orcutt, NW cor. SE Section 27-19-13, is spudding. Sunray Oil Co.'s No. 1-A Baysinger, NW cor. NE SE Section 14-17-13, is spudding. Savoy Oil Co.'s No. 1-A Bruner, SE cor. NW Section 8-16-14, is spudding.

W. A. McCullough's No. 2 Herrick, SW cor. NW SW SE Section 34-17-13, is dry and abandoned at 2,715 feet. L. C. Butler and others' No. 1-A Harrison, SE cor. NW SE Section 32-17-14, is making 9,000,000 feet of gas from sand at 1,363-67 feet.

Okfuskee County

Independent Oil & Gas Co. has the rig on the ground for No. 1 Holmes, CWL NW NE Section 30-11-11. Champlin Oil & Refining Co.'s No. 6 Holmes, NE cor. Section 22-11-11, was completed for 263 bbls. in the Wilcox sand at 3,486-3,531 feet after a shot of 100 quarts.

Okmulgee County

F. D. Misner's No. 3 S. Deer, CSL SW SW Section 2-15-14, is drilling at 1,300 feet. No. 4 S. Deer, SW cor. SE SW SW Section 2-15-14, is drilling at 1,000 feet. Carr Peterson has the rig up for No. 2 E. Ware, C SE SW Section 9-15-14. Lambert Oil & Gas Co.'s No. 3 Aultman, SW cor. SE NW, Section 29-13-15, is spudding.

Sheldon Oil Co. and others have the rig on the ground for No. 1 Morton, CEL SE SW Section 15-13-12. Dewitt-Baldridge Oil Co. has the rig up for No. 1-A Ackley, NW cor. NE Section 36-16-13. Anadarko Western Oil Co. has moved a machine out for No. 1 Phinney, NW cor. SE SW Section 30-15-12.

Jordan & Thompson's No. 2 Thornberg, C NE NE Section 27-15-12, is a dry hole at 2,227 feet in the Dutcher sand topped at 2,171 feet. Brownlee & Martin's No. 1-A Vierson, NE cor. SE SE Section 34-14-12, was completed for 6 bbls. in sand at 1,935-52 feet. Sheldon Oil Co. and others' No. 2 Skelton, SW cor. SE Section 15-13-12, is making 80 bbls. from the Wilcox sand at 2,875-89 feet. A. E. Kirkland's No. 4 Bell, SE cor. NE NE SW, Section 17-15-13, made a 10-bbl. well after a shot of 100 quarts in sand at 1,352-72 feet. F. Hyer's No. 1-A McKinney, SE cor. NW SW Section 16-15-14, has been abandoned at 1,975 feet. The Texas Company's No. 14 Bruner, CSL SW SE Section 16-15-14, was completed for 40 bbls. in sand at 2,339-50 feet. Columbus Drilling Co.'s No. 8 Doyle, C SW NW Section 28-13-14, was shot with 60 quarts in sand at 1,669-84 feet and is making 20 bbls. Lambert Oil & Gas Co.'s No. 1 McCombs, C SE NE Section 30-13-15, was completed for 250,000 feet of gas in sand at 775-840 feet.

Wagoner County

L. H. Towner's No. 4 Morris, CNL NW NE Section 1-17-17, has been abandoned at 260 feet.

Logan County

Roxana Petroleum Corp. has the rig on the ground for No. 1 Williams, NW cor. Section 32-19-4w, Lovell Field. Blackwell Oil & Gas Co. has built the rig for No. 1 Sode, NE cor. SW Section 28-18-4w.

Muskogee County

J. L. Selby has moved a machine out for No. 7 Brown, SE cor. SW NW Section 35-15-15. J. R. Parks' No. 1 Vann, NW cor. SW SE Section 24-15-19, is rigging up.

J. L. Selby's No. 6 Brown, CSL SW NW Section 35-15-15, is dry and abandoned at 2,096 feet. Hale-Ford Oil Co.'s No. 1 Walker, SE cor. SW NW Section 23-15-17, is a dry hole at 1,635 feet. C. M. Bradley's No. 7 Goodrich, NW cor. SW NW SW Section 5-14-19, is making 40 bbls. after a shot of 55 quarts, producing from sands at 681-96 feet and at 728-36 feet. W. J. Metzger's No. 5 Crittenden, SE cor. NE NE SE Section 6-14-19, is a 15-bbl. well in sand at 726-38 feet.

Hughes County

Jarvis & Holmes have the rig on the ground for No. 1 Street, NW cor. SE NW Section 21-7-8. Carter Oil Co.'s No. 5 Alexander, SW cor. NE NE Section 19-8-10, Yeager Pool, topped the Hunton lime at 3,260 feet, drilled to 3,275 feet and made 525 bbls. Gibson & Zanhizer's No. 1 Tiger, SW cor. NE Section 4-10-9, is dry and abandoned at 3,310 feet.

Pottawatomie County

Magnolia Petroleum Co. made location for No. 4 Cowden, SW cor. NE SW Section 4-9-5, Earlsboro Pool. Location for No. 5 Cowden was made SE cor. NW SW Section 4-9-5. Location was also made for No. 6 Cowden, SW cor. NW SW Section 4-9-5. The Texas Company has the rig on the ground for No. 3 Roger, NE cor. SE SE Section 5-9-5.

(Continued on Page 189)

CHAUTAUQUA COUNTY, KANSAS, WELL GETS 45 BBLS. FROM BREAK IN LIME

By J. L. Dwyer
Staff Correspondent, Kansas Fields

Production found a break in the lime in Chautauqua County, Kansas, was the best news from that State last week. Wilson and others' No. 1 Walker, NW cor. SE Section 5-31-10, had the break 2,196-2,208 feet, and the well swabbed 45 bbls. a day.

In Greenwood County, Darby Petroleum Co. and others' No. 1 Frankhouser, SE cor. SW Section 24-22-12, swabbed 300 bbls. the first nine hours from sand 1,653-1,703 feet.

Barton County

Johnson and others' No. 1 Craft, NE cor. SW SW, Section 9-16-15w, has been abandoned at 3,613 feet. Phillips Petroleum Co.'s No. Boyle, C SE, Section 25-17-15w is a dry hole at 4,003 feet.

Butler County

Matthews, Ralston and others made location for No. 1 Doughty, SE cor. NE SE, Section 6-27-6. Schwartz and others' No. 3 Hazlett, NW cor. SE NW, Section 19-25-5, was completed for 30 bbls. in sand 720-35 feet after a shot of 20 quarts. Howorth, Howard and others' No. 1 Clayton, SE cor. SW, Section 23-25-6, is dry and abandoned at 2,820 feet. Burford & Brimm's No. 1 Lambert, SW cor. SE SW, Section 20-25-7, is dry and abandoned at 3,234 feet. Foraker and others' No. 1 McClure, NE cor. SE NE, Section 30-26-6, has been abandoned at 3,190 feet.

Coffey County

Harper Oil Co.'s No. 1 Pilcher, SW cor. SE SW, Section 16-23-14, is dry and abandoned at 1,705 feet.

Cowley County

Shawver and others made location for No. 1 Johnson, C SE SW, Section 31-34-3. Pyle & Sutter made location for No. 1 Hutton, SW cor. NW, Section 15-35-4.

Dickinson County

Phillips Petroleum Co.'s No. 1 Reardon, SE cor. NE NE, Section 17-15-4, is dry at 2,445 feet.

Elk County

The Prairie Oil & Gas Co.'s No. 16 Porter, SW cor. SE, Section 12-29-8, made 100 bbls. in sand 1,974-90 feet. Theta Oil Co.'s No. 2 Marshall, SE cor., Section 27-31-10, an old well is drilling deeper at 2,150 feet. No. 1 Chaffin, SW cor., Section 26-31-10, is spudding.

Greenwood County

Ritchey, Moore & Phillips have the rig up for No. 1 Klosser, NW cor. NE NE' Section 8-22-11. Henderson, Holdren and others have the rig on the ground for No. 1 Peese, SE cor. SW, Section 10-22-11. Polhamus and others have the rig up for No. 3 Townlot, CSL SW SW, Section 35-25-11.

Simmons and others' No. 1 Clopton "B", NE cor., Section 23-22-10, is a dry hole at 2,333 feet. The Texas Company's No. 1 Hale, SW cor., Section 31-22-12, is dry and abandoned at 2,038 feet. Henderson & Holdren's No. 1 Turpen, NE cor., Section 28-26-9, had a 3-bbl. show in sand 911-24 feet, drilled to 2,680 feet and was abandoned. The Prairie Oil & Gas Co. made location for No. 1 Beuchat, NW cor., SE SE, Section 5-24-12.

Lyon County

Gasche and others' No. 1 French, NW cor. SW, Section 26-21-12, is dry and abandoned at 2,018 feet.

McPherson County

McLaughlin and others' No. 1 Hanson, NE cor. SE, Section 22-18-3w, is dry and abandoned after drilling to 3,630 feet.

Marion County

Crow and others' No. Townsend, NE cor. NW SW, Section 31-21-4, has been abandoned at 2,635 feet.

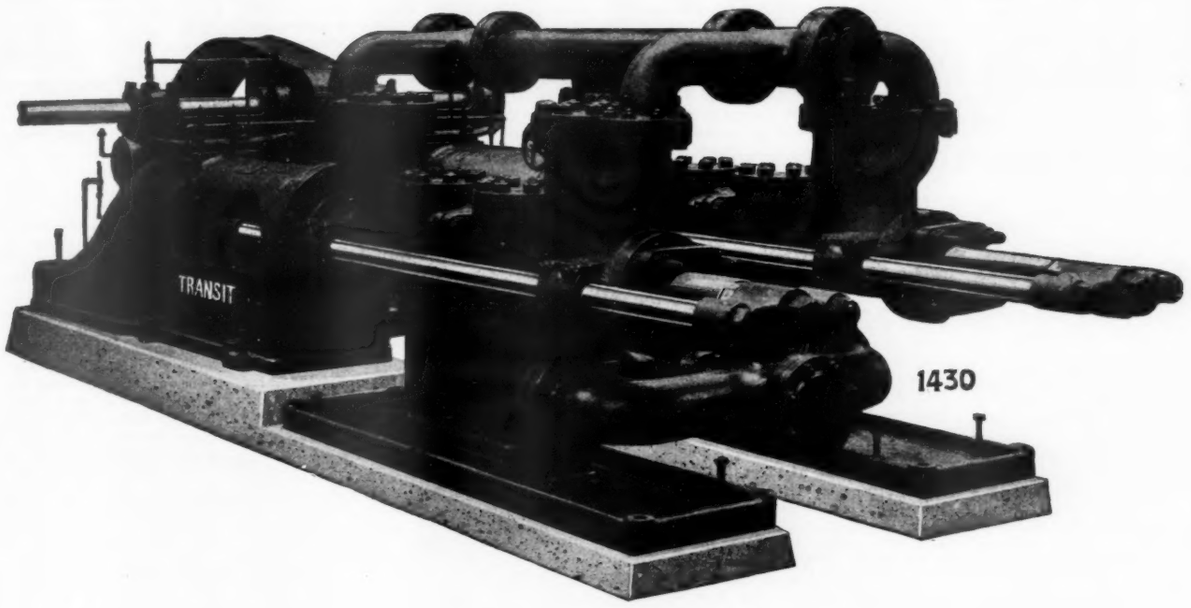
Russell County

Midwest Exploration Co. made location for No. 21 Austin, NE cor. SW SW, Section 30-12-15w. Streeter & Stearns moved the rig out for No. 1 Gorham, SE cor. NW, Section 6-15-15w.

Sumner County

Noble and others have the machine on the ground for No. 1 Oxford townsite, Lot 6, Block 32, Section 12-32-2. Mid-Continent Petroleum Co. has the rig timber on the ground for No. 1 Oxford townsite, Lot 20, Block 25, Section 12-32-2. Wentz Oil Corp. has moved a machine to the location for No. 1 Oxford townsite, Lot 1, Block 87, Section 14-32-2.

TRANSIT
Pipe Line Pumps



Pipe Lines have enough troubles these days without paying too much for pumps, or buying pumps not exactly suited to their work. The Texas Type power pump illustrated above is regarded very highly by many experienced pipe line men because it overcomes so many of the little annoyances found in pumps less adapted to pipe line work.

STRENGTH is there by reason of correct design, and not by a preponderance of unnecessary metal.

ACCESSIBILITY is well taken care of in the design and is further enhanced by extreme simplicity.

DURABILITY too has been attained by large bearing surfaces, broad faced herringbone gears and deep plunger stuffing boxes, made especially long, to minimize packing pressure on plungers.

The fluid pumped travels through short direct passages of liberal area, and of easy turns and bends in a natural way without the objectionable "churning" so often experienced with ill adapted pumps.

Our line of pumps is complete for either light or heavy pipe line service. A letter from you describing your conditions will bring our recommendations, or if you prefer we will send an engineer to go over your conditions.

Representatives
FRICK-REID SUPPLY COMPANY
Tulsa, Okla., or any store.
ASSOCIATED SUPPLY COMPANY
Los Angeles, San Francisco, Bakersfield, Fellows
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NATIONAL TRANSIT
Pump & Machine Co.
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DISTRICT OFFICES
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THE GLOBE SUPPLY & MACHINERY CO.
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REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Two More Deep Wells in Pine Island

Trinity Horizon Gas Production Found in Bossier Parish Wildcat. Discovery Gusher in Pine Island Showing Water

By Neil Williams
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 25.—Bailing in of two more deep wells in the Pine Island district of Caddo Parish, one making oil, salt water and gas and the other flowing only gas and salt water, and the picking up of the Trinity horizon gas production in a Bossier Parish wildcat marked virtually the only interesting developments in the Arkansas-North Louisiana division the past week.

The latest well in the Pine Island Field is Dixie Oil Co.'s No. 8 Fitzsimmons (Clark), which was bailed in late Saturday making at least 30,000,000 feet of gas with a heavy spray of salt water and a showing of oil. The well was slow to come in, bailing beginning at 1 o'clock Saturday afternoon and continuing until 6:30 o'clock.

Depth of the well is an even 3,800 feet in the Trinity horizon, 115 feet deeper than Haynes Brothers' big oil producer in the field a half mile southwest. The well occupies approximately the highest point in Caddo Parish and the formations are reported to have run from 20 to 40 feet above those in other wells down the slope.

Four 500-bbl. storage tanks had been provided at the well in anticipation of oil production, but the fact that the first flow was only gas and salt water is not discouraging, as with the freakish conditions which exist in Trinity horizon wells this well later may start flowing oil.

The Texas Company's No. B-13 Noel, to the west in this section, which was brought in earlier in the week flowing at the rate of 684 bbls. of oil, 500 bbls. of salt water and an estimated 10,000,000 feet of gas daily, Saturday was making approximately 500 bbls. of oil and 1,000 bbls. of salt water with gas. This well was completed at a depth of 3,793 feet.

Gusher Showing Water

Haynes Brothers' No. 1 Murray, Section 14-21-15, which started the latest active deep drilling in the Pine Island Field, has dropped from its first 24 hours' production of 6,500 bbls. to around 2,900 bbls. Saturday. Friday the well started making some salt water so the back pressure was increased from 120 to 400 pounds to hold back the water.

Gulf Refining Co.'s No. 13 Tyson, this section, which was bailed in making only gas and salt water and which in a few days started making oil reaching a maximum day's production of 1,835 bbls. a week ago, has fallen off and last Saturday was flowing at the rate of only 883 bbls. This well is only a quarter mile from the new Dixie well, which Saturday was completed under practically the same conditions and with virtually the same results as the Tyson well and was bailed in nearly two weeks ago. Gulf's No. 12 Tyson has dropped to a little better than 300 bbls. daily production. The latter at one time produced as high as 938 bbls. daily but since the Haynes well was completed it has been dropping steadily.

Bossier Parish Deep Test

Bossier Parish also got its first Trinity horizon production the past week when a semiwildcat at a depth of 4,154 feet gauged 1,728,000 feet of gas testing 211 gallons of gasoline to the 1,000,000 feet. This was Sligo Syndicate's No. 1 Jeter, Section 23-17-12, in the Sligo district.

The gas in this well is from a sandy lime first encountered at a depth of 4,150 feet. The well has been closed in for casing repairs as the gas is leaking between the 6 and 8¼-inch casing. An attempt was made to record the pressure which showed 750 pounds the first hour, but soon dropped to 400 pounds.

This is the first test in Bossier Parish below 3,500 feet to make any gas or oil and its results are of particular significance. Two other deep tests are under way in this parish; one, Palmer Corp.'s No. 4 Bossier, Section 9-16-11, Elm Grove, being down below 4,785 feet. The latter drilled hard lime from 4,501 feet but at present is in lime and shale. An attempt was made to get a well at 4,150 feet, the same level at which the Sligo well found gas, but the test was bailed dry there and drilled deeper.

In the Bellevue district of Bossier Parish another deep test is being drilled by the Humble Oil & Refining Co. in conjunction with several other major companies, which at present is drilling around 3,200 feet in hard shale. This is the No. 30 Bliss & Wetherbee, Section 15-19-11, which is one of the most closely followed wells in the division. It is of importance because it picked up at 1,970 feet the same formations of the upper Glen Rose formation encountered in the Pine Island Field at 2,800 and 2,900 feet, and promises one of the first real tests to the Trinity sand in northwest Louisiana.

Another at Pleasant Hill

The Pleasant Hill district of Sabine Parish has added another well not previously reported making an initial flow of 450 bbls. daily, this being the Arkansas Fuel Oil Co.'s No. 1 Horn, Section 33-10-12, completed at a depth of 3,200-07 feet. This district also figured in the news when another well, the No. 8 Logan, same section, blew out making an estimated 6,000,000 feet of gas. This well only recently was completed at a depth of 3,228 feet, flowing 15 bbls. of oil daily through 2-inch tubing. The gas is being killed and the hole will be deepened.

Operations on the whole were unusually quiet throughout the entire division, especially in Arkansas. For the first time in many months there was not a completion in Union County. Nevada County got a 250-bbl. well, and Ouachita County two pumpers. For the entire division, only 13 wells were reported completed during the week, 9 being oil wells, 1 a gasser and 3 dry holes.

Due to gains made in the Pine Island district of the Caddo Field, oil production of Arkansas and North Louisiana reflected an increase of 1,045 bbls. in the daily average during the week, the total daily average production the past week being 167,420 bbls. By field this production was:

North Louisiana	
Caddo light	17,165
Caddo heavy	5,700
Homer	4,940
Haynesville	7,480
DeSoto-Red River	4,265
Elm Grove	700
Bellevue	1,405
Cotton Valley	5,510
Urania	9,720
Pleasant Hill	1,000
Total Louisiana	57,885
Arkansas	
El Dorado	5,865
Lisbon	3,580
Smackover light	10,930
Smackover heavy	86,125
Stephens	1,335
Nevada	1,580
Bradley	120
Total Arkansas	109,535
Total both states	167,420
Total last week	166,375
Increase	1,045

A summary of operations during the week showed 13 completions, 9 wells waiting on standard pumping rigs, 13 temporarily abandoned, 182 drilling, 23 rigs up, 32 derricks, and 11 locations.

North Louisiana

Bossier Parish

Humble Oil & Refining Co.'s deep Bellevue test, No. 30 Bliss & Wetherbee, Section 15-19-11, is drilling hard shale at 3,187 feet. Palmer Corp.'s deep Elm Grove test, No. 4 Bossier, Section 9-16-11, is drilling lime and shale at 4,785 feet.

Caddo Parish

The Pine Island district of Caddo Parish continued the most active of any field in drilling. Arkansas Fuel Oil Co.'s No. 11 Bashara, Section 23-21-15, is drilling ahead at 3,026 feet with only from 600 to 700 feet to go to encounter the lower Glen Rose formation found productive in wells to the north. This company also has started operations on another deep test, its No. 1 Huckaby, Section 14. This test is down 250 feet with surface casing set at 173 feet. Arkansas Natural Gas Co.'s No. 2 Lane, Section 13, is drilling lime at 2,625 feet. Dixie Oil Co. is building a derrick for No. 69 Dillon (Robertshaw), Section 14. This company's No. B-5 Files & Mabry is down 3,632 feet and is reaming to set 8-inch casing at the top of the producing horizon. No. 8 Fitzsimmons is coring after drilling out the 8-inch plug cemented at 3,700 feet. In No. A-2 Noel, Section 13, Dixie Oil Co. has pulled the 6-inch casing and is resetting it on a new set shoe. This test is down 3,867 feet. In No. 10 Slattery, Section 27, the 4½-inch casing has been set at 3,964 feet. In Section 15, Gulf Refining Co. has a derrick up for No. 10, a deep test on its Herndon lease. No. 14 Tyson, Section 14, is being drilled at 585 feet. The 12½-inch surface casing was set at 246 feet. Haynes Brothers are rigging up for their second deep test on the Murray lease, Section 14, and have started operations for No. 1 on the Spell lease, Section 15, drilling at 350 feet.

Magnolia Petroleum Co. is drilling chalk rock at 1,895 feet in No. 21 Dillon (Robertshaw), Section 23. This company's No. 16 on this lease in Section 24, which originally was drilled for a deep test to 3,765 feet, is pumping salt water from a formation at 1,750 feet where the casing was perforated. Ohio Oil Co.'s deep test, No. 25 on the Smith land, Section 12, is drilling at 4,332 feet in lime. Shreveport Oil Corp.'s No. 2 State, Section 27, has been shut down at 2,400 feet. The Texas Company has a rig up for No. 6 on the Herndon farm, Section 14, and has just started drilling in No. 8. On the Herold lease, this company has a derrick for No. 9. The Texas Company's B-13 Noel, Section 14, is being bailed for a test at 3,793 feet. This is the next deep test due in. To the west on the Raines land, Section 15, The Texas Company has started construction of a derrick for another deep test, No. 19.

Magnolia Petroleum Co. has completed a shallow well in the Pine Island Field, this being the No. 4 Caldwell, Section 24, pumping 5 bbls. from a depth of 1,620 feet.

Waskom and Greenwood

In the Waskom and Greenwood districts, Evans and associates are drilling at 500 feet on their No. 1 on the Trosper lease, Section 35-18-16. B. A. Hardy has cemented 6-inch casing at 2,692 feet in No. 2 Angurs, Section 6-16-16. Greenwood Producing Co.'s No. 1 Thigpen & Herold, Section 23-18-16, is down 93 feet. B. A. Hardy's No. 1 Bickman, same section, is drilling in lime at 2,390 feet. Magnolia Petroleum Co.'s No. 4 Bell, Section 4-17-16, is down 2,402 feet where

(Continued on Page 222)

FRANKLIN PARISH, LA., WILDCAT ATTRACTS CONSIDERABLE INTEREST

By Neil Williams

SHREVEPORT, La., July 23.—As the week opens, operators of the North Louisiana-Arkansas district have their eyes on a wildcat in Franklin Parish, Louisiana, which is expected to drill plug some time Monday and possibly bail Tuesday or Wednesday. This test is Barbour Oil Co.'s No. 1 Baker, Section 3-15-7e, from 10 to 12 miles south and slightly east of the wildcat Rayville gas field in Richland Parish, northeastern Louisiana.

The drillers say they have 3 feet of oil sand at 2,793-96 feet which looks good. The 6-inch casing is cemented at 2,780 feet. The Barbour Oil Co. recently took the test over from Robinson & Long.

Considerable interest is attached to any operations in the east and northeastern part of Louisiana for their relationship to the Monroe gas field. On the other side, to the north of the Rayville gas field, which itself is 20 to 25 miles southeast of the Monroe Field, a wildcat play is just starting in West Carroll Parish, and the getting of a well in Franklin Parish would prove a stimulus to operations all over that district, as well as in Franklin Parish.

Pleasant Hill Production

Wildcat completions the past week failed to produce anything of general interest except the addition of some new production in the Pleasant Hill district of Sabine Parish, Louisiana. Arkansas' most promising wildcatting activity is hinging chiefly on the outcome of Ohio Oil Co.'s No. 1 Pumphrey, Section 1-17-14, northeastern Union County. This test is drilling around 2,700 feet, lacking about 300 feet of the level at which production was encountered in the Ohio Oil Co.'s discovery well of this district.

The latter, the No. 1 Crain, same section, continues to pump around 48 bbls. daily of oil with about 0.3 per cent of b.s. and no water. However, unless the Pumphrey test makes a bigger well than the first well it is not likely there will be much additional drilling at this time, due to the depth of production and low price of crude. However, Magnolia Petroleum Co. already is building a derrick for a test in this section on the Carroll farm.

It is reported that three locations are to be made the coming week for new tests in southern Natchitoches Parish, Louisiana. These are to be drilled under the name of Lawton & Pharris, although they will be co-operative projects participated in by The Texas Company, Simms Oil Co., Ohio Oil Co. and others.

This is a territory which so far has failed to receive a favorable test and is more or less rank wildcat country.

North Louisiana

Bienville Parish

W. E. Hicks and associates are arranging to abandon No. 1 Hodge Hunt, Section 21-16-5, after drilling to a depth of 2,501 feet.

Bossier Parish

Magnolia Petroleum Co. is waiting on 10¾-inch casing before drilling deeper in No. 1 Rogers, Section 21-23-12, Carterville Field. The hole is down 808 feet. In Section 27, The Texas Company has started operations at No. 1 Mays and is drilling at 388 feet. Woodley & Col-

(Continued on Page 217)

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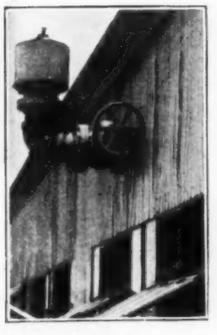

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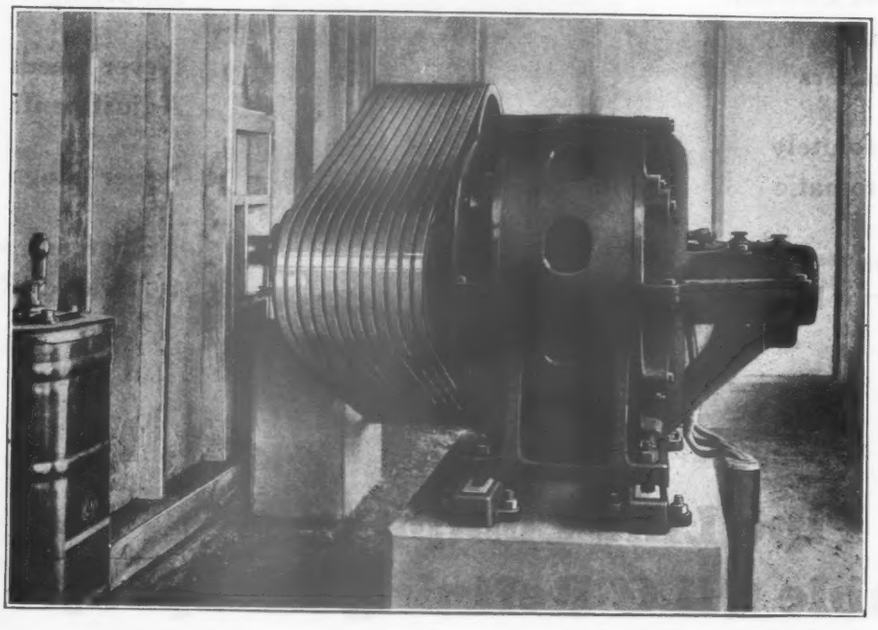

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Humble Well Extends Kingsville Field

Half Mile Northwest of Present Production and Making 125 Bbls. Daily by Heads. Watching Test to Southwest

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., July 25.—Humble Oil & Refining Co.'s No. 1 Gulf-Dennett in the Kingsville Field is an oil well flowing by heads at intervals of an hour and a half and making about 125 bbls. daily. The well is on a 40-acre lease owned by the Gulf Production Co. and was reported a week ago standing within 600 feet of the top of the hole in oil. Tubing was run and the well began to flow. It is a half mile extension to the northwest for the field and Humble's No. 4 Kleberg drilling at around 2,000 feet and located a half mile southwest of it is being watched to see if it gets the sand at the same depth. If it does it will be taken to indicate that the two wells are higher up on the structure and that the structure runs from northeast to southwest.

The Humble is starting a north offset to No. 1 Gulf-Dennett which is about two locations from a lease owned by The Texas Company. The Humble plugged back its Kivlin No. 1 in the same field, from 3,900 to 2,300 feet and shot it Wednesday and it came in with 950 pounds rock pressure making dry gas and under control. It is estimated at 50,000,000 feet.

In the Laredo district, Cole Petroleum Co.'s No. 47 Benavides in Block 13 of Survey 412 of Webb County, in the new Cole gas field, was completed last week at 2,340 feet good for 60,000,000 to 80,000,000 feet of dry gas. The well is due east of the No. 36 Benavides, the discovery well, at slightly less depth which is spraying oil when opened and the No. 46 Benavides is a half mile to the northwest and in the same sand. It is flowing by heads about 75 bbls. of oil daily. Nos. 36 and 46 being in a line northeast and southwest and each making oil and the No. 47 to the east and No. 44 to the south being dry gassers is responsible for a new theory that a real oil field will be to the northwest.

Killam-Duggan's No. 2 Cuellar in the Cerrito Blanco grant is a 25,000,000-foot gasser at 1,431-36 feet. Magnolia discovered that gas spot with a 3,000,000-foot well and Killam offset it to the east with his No. 1, which was a 40,000,000-foot gas well at 1,359 feet. No. 2 is further to the east.

MIRANDO TERRITORY

Webb County Completions

Columbia Petroleum Co.'s No. 15 Puig in Block 75 at 1,759 feet completed in the Aviator Field is making 75 bbls.

Cole Petroleum Co.'s No. 47 Benavides in Cole Field No. 2 at 2340 feet was completed making 60,000,000 to 80,000,000 feet with rock pressure of 750 pounds.

Zapata County

Killam & Duggan's No. 2 R. B. Cuellar in the Cerrito Blanco grant in the Jennings Field at 1,431-36 feet was completed making 25,000,000 feet with a rock pressure of 500 pounds.

Zapata County Abandoned

Harlingen Oil & Gas Co.'s No. 5 Martinez, Charco Redondo shallow field at 1,037 feet lost hole with tools in it.

Buffalo-Erie's No. 1 Burtrand, Survey 627, at 1,200 feet was abandoned dry.

Webb County

Houston Oil Co.'s No. 1 Barnsley, Survey 268, Block 9, of the Carolina-Texas gas field, was abandoned at 3,102 feet.

New Locations

Pittman & Moriarty's No. 1 Puig in Block 4 of the Aviator Field in Webb County has been spudded in and is drilling at 600 feet.

Houston Oil Co.'s No. 2 "A" Barnsley in Survey 268, Block 12 of the Carolina-Texas Field in Webb County is location.

The Texas Company's No. 7 Jennings in the Jennings Field in Zapata County is location in the Cerrito Blanco grant and test has been spudded in.

Paizano Oil Syndicate has made location for the No. 1 Campbell on the 739 acres of R. H. Campbell in the Las Vivoritas grant, in Jim Hogg County.

SAN ANTONIO DISTRICT

Kleberg County Completions

Humble Oil & Refining Co.'s No. 1 Gulf-Dennett in Block 18, Section 38, at 2,246 feet is making 125 bbls. daily by heads at one and one-half hour intervals through tubing.

Gonzales County

L. P. Unkel's No. 1 Johnston in the C. H. Jaeger Survey, a grass roots well at 214 feet, is a small producer on the pump.

Kleberg County Abandoned

Houston Oil-A. C. Erwin's No. 1 Kilvin, Block 7, Section 50, has been abandoned at 2,824 feet.

Humble Oil & Refining Co.'s No. 1 Kleberg-Trustee, Block 8, Section 40, was abandoned at 4,000 feet.

Humble Oil & Refining Co.'s No. 3-A Dennett, Block 2, Section 39, was abandoned at 2,740 feet.

Gonzales County

The Texas Company's No. 1 Plowman, Byrd Lockhart Survey, was abandoned at 1,200 feet.

Fayette County

La Fayette Oil Co.'s No. 1 Marquardt, Phillips Survey, has been abandoned at below 3,000 feet, dry.

Milam County

Coffield & Hale's No. 1 Stephens, 1½ miles from production, lost hole at 700 feet.

New Locations

Magnolia Petroleum Co.'s No. 17 Rios is new location in the northeast corner of the John Henry Survey of the Luling Field in Caldwell County.

Humble Oil & Refining Co.'s No. 2-B Dennett, Block 13, Section 38, offsetting the No. 1 Gulf-Dennett, is new location.

R. H. Brown's No. 1 fee is location in the southwest corner of Survey 54 in McMullen County.

National Oil Co. is preparing to test on block of acreage in San Patricio County gotten together by J. T. Laprade, a little south and east of Mathis.

J. W. Allen's No. 1 Brayon is location near the No. 1 Callahan of the North & South in Caldwell County.

The Texas Company has made location in the Byrd Lockhart Survey, Gonzales County, for No. 2 Plowman.

L. L. Jones' No. 1 Campbell is location in Gonzales County in the southwest corner of Moore & Bridges Survey.

The Texas Company's No. 3 Lasater, Survey 329, Brooks County, is location 2,380 feet to north and 450 feet to west line.

W. A. Jones' No. 2 Smith in Milam County, offsetting No. 1, is rigging up.

Coffield & Hale's No. 2 Stephens, 10 feet from the No. 1 lost, is drilling at 800 feet.

J. W. Kemp's No. 1 Aycock, J. Leal Survey, Milam County, is location in the northwest corner.

Kent & Middleton's No. 2 Ed Gunn, offsetting the No. 1, is drilling in Milam County at 600 feet.

Cole Gas Field

Cole Petroleum Co.'s No. 38 Benavides, Survey 10, Block 12, located 155 feet to northwest and northeast lines has derrick up. Maddox and others' No. 1 Bruni, Block 15, at 64 feet to southwest lines and 53 feet to southeast lines(location changed), is drilling at 1,200 feet. Houston Oil-Roxana's No. 1 Bruni, Survey 11, Block 23, located 100 feet to southeast and 110 feet to northeast lines has sand at 1,561-65 feet. Newton Dril'ing Co.'s No. 1 Bruni, Survey 9, is a location, 500 feet to northwest and 150 feet to northeast lines. Trussell, Cezeaux & Putman's No. 1 Bruni is location in Survey 10.

Piedras Pintas Dome

Humble Oil & Refining Co.'s No. 6 Walsh, Survey 185, located 364 feet northwest of No. 4 is drilling below 3,700 feet.

Randado Pool—Jim Hogg

Magnolia Petroleum Co.'s No. 24 Merchants State Bank, Survey 415, located 1,480 feet to west line and 1,200 feet to north line has rigged up.

Kitselman & St. Albans

K. & S. Corp.'s No. 57 Holbien, Survey 17, Block 40, located 330 feet to NE cor., is drilling at 3,505 feet.

Alworth Field

Alworth Brothers' No. 13 M. Garza, Survey 39, Block 6, located 150 feet to southeast and 450 feet to southwest lines is moving in.

Schott Field—Webb

Magnolia Petroleum Co.'s No. 8 Garcia, Survey 58, located 1,237 feet to west line and 150 feet to north line is moving on. Laredo Oil Co.'s No. 13 Killam, NW NE SE, Survey 457, located 150 feet to west line and 175 feet to north line at 1,689-1,703 feet tested small amount of gas and salt water.

Albercas Pool

Newton Drilling Co.'s No. 1 Bruni, Block 65, located 225 feet to east and 1,470 feet to south lines has been spudded in. O. W. Killam's No. 5 Bruni, Block 65, located 210 feet to east and 150 feet to north line is drilling at 450 feet.

Aviator Field

Columbia Petroleum Co.'s No. 15 Puig, Block 76, located 600 feet to south and 20 feet to east line has set casing at 1,753 feet; No. 16 Puig, Block 75, located 301 feet to east and 600 feet to south lines has been spudded in.

Carolina-Texas Pool

D. J. Simmons' No. 2 de la Garza, Survey 335, Block 8, located 150 feet to SW cor., is standing at 400 feet. Woodward and others' No. 1 Webster, NW NE NW, Survey 684, located 150 feet to NW cor., is drilling at 2,870 feet. Houston Oil Co.'s No. 1 Barnsley, Survey 268, Block 9, located 150 feet to SW cor., is drilling at 2,855 feet. Hayes-Barnsley Syndicate's No. 1 de la Garza, Survey 335, Block 22, located 150 feet to SE cor., is drilling at 500 feet.

Cole Gas Field No. 2

Cole Petroleum Co.'s No. 47 Benavides, Survey 412, Block 13, located 160 feet to east and 450 feet to south lines at 2,335-40 feet has been completed gauging

(Continued on Page 213)

STARR COUNTY WILDCAT TESTS SALT WATER; WILDCATTERS MORE ACTIVE

By B. D. Stevenson

SAN ANTONIO, Tex., July 25.—Wildcat activity was set back a little last week when the Milham Corp.'s No. 1 Salinas in Porcion No. 111, Starr County, tested salt water at 4,385 feet. A week before the gas had been sufficient to clean the hole but the well was gotten under control again. Some delay was then encountered making the test due to heavy rains. The well was later bailed with about 120 feet of liner set in the bottom, bailing only in the day time. The gas was greatly diminished and when the well bailed down 1,800 feet of the bottom salt water began coming in. It is drilling deeper. It is one of the deepest holes drilled in the Rio Grande Valley area and will continue down as deep as it is possible to carry the hole.

The Rycade Petroleum Corp. which has been having more or less trouble all along with its No. 1 Chittim in Maverick County, 17 miles east of Eagle Pass, which was a good-sized gas well at 5,592 feet, after considerable effort, sidetracked the tools lost in the hole and drilled to 5,624 feet and it is now reported has another fishing job on hand. This has not been confirmed.

In the Laredo territory, Killam's No. 1 Bruni in the Albercas Pool, a new pool 4 miles east of the Aviator Pool, and discovered with a gas well, is pumping about 30 bbls. of oil at a depth of 2,167 feet. It was the second well drilled and came in originally a gasser. Since then No. 4 Bruni, completed earlier this month, came in making about 50 bbls. of oil. No. 1 Bruni, in Block 65, of the Albercas grant, was the second well drilled in the field. Between this on the north and the Henne, Winch & Fariss Pool on the south. William F. Morgan, Inc., is starting a well with the expectation of getting gas.

Wildcatters Active

Wildcat activity throughout southwest Texas was augmented the past week by eight new locations. In addition to those officially announced there are a few few others that are assured. National Oil Co. will drill a block in San Patricio County south of Mathis and along the Nueces River that was shot with seismograph and looks as though it was favorable for oil production.

Houson Oil Co., which has a gas field in Live Oak County on the Cartwright land and has lately gone into the Kingsville territory and is drilling, is also to drill on a block owned by the Sun Oil Co. at White Point in San Patricio County on the north side of Corpus Christi Bay.

Kone Production Co. drilled two deep holes on the Lasater land in Brooks County on Gyp Hill where there is supposed to be a salt dome. They went to 3,500 feet and did not get into salt. Then The Texas Company took it up and drilled two and went into salt at a shallow depth. Now The Texas Company is moving to its third location.

The deep test in the Refugio Field, announced last week, will be on the Shelly lease of William F. Morgan, Inc., and Houston Gulf Gas Co. will drill it. In as much as it will not stop at the shallow sands it is the equivalent of a wildcat test.

Gets Showing of Oil

Martin Oil & Development Co. finished setting 6⅝-inch casing in the No. 1 Preston in southern Gonzales County near Cheapside at 1,571 feet on a rock and previous to setting casing cored to 1,576 feet and the core, it is claimed, showed a little oil. The well was standing for a few months with fluid in the hole but it is claimed the core indicated that the fluid had not gone into the sand. A test is due on the well shortly and some are confident it will make some kind of a well. It is 40 miles from any production.

Two blocks of acreage have lately been taken in Fayette County, one block being south of the Colorado River and on the Fayette-Colorado County line being partly in each county. The other is northwest of this and southwest of LaGrange.

(Continued on Page 214)

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South Louisiana Pools Leading Gulf

Make Best Showing During Past Week. Productive Area in Boling Dome, Wharton County, Extended 2½ Miles

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., July 25.—The pools in South Louisiana made the best showing this week for the Coastal territory. The Gulf Refining Co.'s No. 42 Star, in the Vinton (La.) Pool, was completed at 3,200 feet flowing 2,800 bbls. 24 gravity oil. It was completed Wednesday and at the end of the week it was holding up around the original output. Wilson & Broach's No. 5 Lyons there is bailing at 2,450 feet.

The Texas Company worked over No. 3 Latrielle, in the Jennings Pool, getting a 300-bbl. producer. C. M. Crotty's No. 12 Lilliard, in the Edgerly district, completed at 2,310 feet, is flowing 300 bbls. of fluid, 35 bbls. of which is oil. The Vacuum Oil-Gulf Refining Co.'s joint No. 6 Miller, in the Lockport Pool, was deepened to 4,450 feet and is a salt water hole.

The estimated daily average gross production for the week of July 23 is placed at 145,240 bbls., which is an increase of 2,835 bbls. compared with the previous week.

The estimate for each pool is as follows:

Estimated Production

Pool—	Bbls. Dy. Av.
Boling	2,100
Batson	1,300
Blue Ridge	4,460
Barber Hill	775
Big Creek	3,150
Dayton	450
Damon Mound	885
Edgerly (La.)	670
Goose Creek	7,865
Humble	4,325
Hull	15,655
High Island	200
Jennings (La.)	1,340
Lockport (La.)	7,100
Markham	350
Nash	1,050
Orange	5,010
Orchard	80
Pierce Junction	7,450
Piedras Pintas	100
Spindletop	55,000
Saratoga	1,200
Sour Lake	4,240
South Liberty-South Dayton	2,620
Stark (La.)	600
Vinton (La.)	6,700
Welsh-Anse La Bute (La.)	25
West Columbia	9,540
*Miscellaneous	1,000
Total	145,240

*Includes Washington, Nacogdoches and Kleberg Counties in South Texas and Cameron, Calcasieu and Iberia Parishes in South Louisiana.

Wind and Wells

It will be noted that some pools in which no wells were completed to add new production register increases in the gross output. Old-timers, who have watched these varying figures for years, attribute the changes in production figures to the action of the Gulf tides and winds. The productive areas in the Coastal region are from 20 to 40 miles inland from the Gulf of Mexico. The wells are affected by the winds and tides. It has been noted that when the wind is from the north, or "off shore," both pumping and flowing wells decline more or less, while when the wind veers to the south, or from the Gulf direction, the output of the wells increases. The direction of the wind was from the north for several weeks until recently when it switched around to the south, which is the prevailing direction from which it blows two-thirds of the time during the warm months. Pumpers and production men advance this idea as an explanation for the variation in the production from old leases, where wells have not been worked over or new rods placed in pumpers. Incidentally, in this connection, when the wind continues out of the north for a protracted period, it causes much suffering among humans along the Coastal region with a resultant partial stagnation of business.

Southwest Fields

The estimated daily average for the southwest fields is 32,065 bbls., an increase of 440 bbls. over last week. The increases are in the Luling and Lockhart Fields. The estimate for each field is as follows:

Field—	Dy. Av. Bbls.
Luling	15,900
Mirando	11,975
Somerset	1,040
Callihan	25
Rockdale-Minerva	1,100
Lockhart (Lytton Springs)	2,025
Total	32,065
Grand total for week	177,305
Grand total last week	174,030
Increase	3,275

The productive area off the Boling Dome in Wharton County, southwest of Houston, was extended 2½ miles southeast late in the week when the Gulf Production Co. completed No. 1 Abernath at 1,230 feet, heading 400 bbls., 21 gravity oil. The location is southeast of The Texas Company's No. 3 Taylor, on the south flank of the dome, completed in December, 1925, and which was followed by an intensive drilling campaign that brought the daily average output up to 8,800 bbls. in March, 1926. Shallow sand production is found on the dome at from 400 to 450 feet, with initial output of from 100 to 600 bbls., 19 gravity oil. The Gulf company's well thus makes three producing areas on and around the dome. The oil found on the dome is from cap rock formation while that off the dome is from sands. The latest well has 20 feet of sand. It is shut in for storage.

Fourteen wells are drilling or rigging on and around the Boling Dome, but a majority of these are sulphur tests being drilled by the Texas-Gulf Sulphur Co. on top of the dome. On the northeast side, the Sun Oil Co.'s No. 1 Farmer is sidetracking at 1,235 feet and No. 3 Farmer is reaming at 2,420 feet. A location has been made for No. 1 Kaspareck.

The Harrison Oil Co.'s No. 1 Quintette, on the south side of the North Dayton Pool in Liberty County, which started flowing 500 bbls. at 4,170 feet last week, with no screen in the hole, is holding an average of 300 bbls. per day, 36.4 gravity oil.

Wells completed during the week number 15, of which 3 were dry and 2 salt water holes. The new production is 4,210 bbls., an increase of 1,220 bbls. over last week.

Other Completions

In addition to the new wells in the South Louisiana and Boling Pools, the Sun Oil Co.'s No. 14 McLean, in the deep sand section of the Spindletop Pool, is going on the beam at 5,700 feet. It is estimated as a 600-bbl. pumper. Its No. 5 McLean bailed salt water at 3,300 feet. Hines and others abandoned No. 2 Banks at 4,260 feet. The Sun Oil Co. is preparing to test three deep holes there, one of these being extremely deep even for the coastal region. It is No. 12 McLean, in which strainer is being set at 6,150 feet. The others are Nos. 13 McLean and 3 Price, to be tested at 5,400 and 4,900 feet, respectively. The Magnolia Petroleum Co. is preparing to set and bail Nos 3 and 4 feet on the south end of the pool, both below 5,200 feet.

J. F. Bashara's No. 2 Bender, on the northwest side of the Pierce Junction Dome, is pumping 20 bbls. The Texas Company's No. 3 Taylor in the Hull Pool is bailing at 2,900 feet. The Sun Oil Co.'s No. 76 Paraffine in the Batson Pool will make a pumper at 4,179 feet.

The Gulf Production Co.'s No. 29 Davis in the Big Creek Pool in Fort Bend County is making 35 bbls. on the jack at 4,300 feet. No. 24 Davis is bailing at 2,950 feet.

Outside of the Pools

The Pure Oil Co.'s No. 1 Armstrong, off the east side of the Stratton Ridge Dome in Brazoria County, in which 3-inch tubing was set at 4,283 feet, headed over the casing several times, but failed to maintain the flow and will probably be deepened.

The Union Sulphur Co. abandoned No. 3 Harrison at North Dayton, Liberty County, at 1,120 feet. W. C. Wells quit No. 1 Stark in Orange County at 4,100 feet.

Wells Drilling

A total of 102 wells are drilling within the pools proper, with 16 rigged to start or derricks standing. A survey of the pools shows 21 of the drilling wells are in the deep sand section at Spindletop and 14 off Boling Dome as previously noted.

The Texas Company is trying for a deep sand on the southwest side of the Batson Pool, drilling No. 1 Sterling around 1,000 feet. On the north side, Christian & Dutton's No. 1 Kirby is drilling below 2,180 feet.

The East Side Oil Co. is imitating The Texas Company with its No. 1 Ogden on the east side of the old Saratoga Pool drilling around 2,610 feet. The Cove Oil & Gas Co.'s No. 1 Cotton there is around 755 feet.

Development work in the old Orange Pool has dwindled down to four rigs. The Gulf Production Co.'s No. 4 Granger is at 4,898 feet. The Rycade Petroleum Corp.'s No. 14-B Cow Bayou is deepening at 3,940 feet, as is the Texhoma Oil Co.'s No. 16 Chesson at 3,324 feet. The Tillery Oil Co.'s No. 3 State land in Cow Bayou is at 565 feet.

Marrs McLean's (formerly Sun Oil Co.'s) No. 11 Cade at High Island in Galveston County is around 2,800 feet.

Spindletop

In the deep sand area at Spindletop, 3 miles from Beaumont, the Gulf Production Co.'s No. 11 Oakwood is drilling below 4,615 feet, and No. 12 is around 3,800 feet. No. 3 McLean is sidetracking. No. 8 Mann is at 1,455 feet. The Sun Oil Co.'s No. 2 McLean is at 3,810 feet, with Nos. 3 and 4 shut down at 5,950 and 5,951 feet, respectively. No. 15 is below 5,500 feet. The Magnolia Petroleum Co.'s No. 5 fee is around 5,300 feet. No. 6 is at 4,980 feet. The Rio Bravo Oil Co.'s No. 3 T. & N. O. is at 2,785 feet. The Yount Lee Oil Co. is drilling Nos. 36, 37 and 38 McFaddin and Nos. 33 and 34 Gladys. George White's No. 1 Rush is around 4,785 feet. J. O. Davis' No. 1 McKinney is at 975 feet. The Texas Company's No. 1 Garrick, one-half mile north of production, is drilling around 5,900 feet.

In the Goose Creek Pool, operations have dwindled down to four wells drilling. On the east side, the Humble Oil & Refining Co.'s No. 71 Smith is at 4,790 feet, and No. 72 Smith is below 3,455 feet. The Powell Oil Co.'s No. 6 is fishing for liner, and the Gulf Production Co.'s No. 14 Chapman-Bryan, near the mouth of Goose Creek, is at 4,610 feet.

Pierce Junction

On the northwest flank of the Pierce Junction Dome, J. F. Bashar's No. 1-B M. J. Bashara is drilling ahead at 3,655 feet. The Rio Bravo Oil Co.'s No. 5 Bender is at 3,350 feet, and No. 8 Settegast is below 3,435 feet. Smith and others' No. 2 Parsons is drilling at 4,435 feet. The Gulf Production Co.'s No. 3 Jones fee is pulling the liner to deepen it, and Anderson & Plummer's No. 1 Whitehead is fishing at 4,500 feet. The Leonard Petroleum Co. of Washington, Pa., No. 1 Gilmore is around 1,400 feet. Lee & Woodward's No. 3 Settegast is at 455 feet. The Navarro Oil Co.'s No. 2-A Cain, on the east flank of the dome, is drilling around 4,335 feet.

In the Big Creek Pool, the Gulf Production Co.'s No. 26 Davis is rigging to drill deeper. No. 42 Davis is drilling at 875 feet.

In the Blue Ridge Pool, Gulf Production Co.'s No. 15-C Blakely is at 2,910 feet, and its No. 16-C Blakely is at 1,355 feet. No. 11 West-Schenck is around 3,824 feet.

The Texas Company's No. 23 Arnold on the south side of the West Columbia Pool is deepening at 4,308 feet, and No. 83 Hogg on the north side is drilling around 1,015 feet.

Sinclair Oil & Gas Co. and others' No. 1 Wisdom on the north side at Damon Mound is around 990 feet.

The Humble Oil & Refining Co.'s No. 1 Kirby on the north side of the Barber Hill Dome in Chambers County, 12 miles northeast of Goose Creek, is drilling around 4,924 feet. The Humphreys Corp. is shut down there temporarily.

On the south side of the Hull Pool, the Empire Gas & Fuel Co.'s No. 26 Barngrover is around 2,025 feet. The Gulf company's No. 21 Baldwin is at 2,009 feet. Same company's Nos. 10 and 73 Phoenix on the southeast flank are being drilled deeper at 3,160 and 4,135 feet, respectively. The Republic Production-Houston Oil Co.'s joint No. 74 Dolbear on the east flank is deepening at 1,355 feet, and No. 102 is drilling below 900 feet. On the northwest flank, the Mecom Oil Co.'s No. 1 Taylor is working over. The Texas-Vacuum companies have a location for joint No. 5 Taylor.

The Rycade Petroleum Corp. is rigging No. 2-B Kountz in the old Markham Pool in Matagorda County, and has two rigs operating in the Nash Pool on the Brazoria-Fort Bend Counties line.

South Louisiana Pools

In the Vinton Pool, the Vinton Petroleum Co.'s No. 7 Resuce is at 2,815 feet and No. 20 Vincent is rigging. Marrs McLean's No. 4 Gray is rigging, with a derrick up for No. 12 Gray. For the benefit of the uninitiated, it is stated here that "rigging" in the Coastal parlance means placing the rotary and connections on the derrick floor. "Derrick up," or "derrick standing" has the same significance as in a cable region.

In the Lockport Pool, where the Vacuum and Gulf companies are doing all the development work jointly, No. 16 Miller is drilling around 5,100 feet and No. 17 Miller is below 3,985 feet. No. 18 Miller is rigging. The liner for No. 2 Friedberg & Wolfe is being cut to pull out. No. 5 Farquhar is drilling at 5,455 feet, and No. 6 is at 4,235 feet. A derrick is going up for No. 5 Bordages.

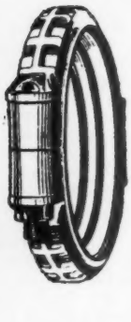
In the Jennings Pool, the Gulf Refining Co.'s No. 1 Lockelt, on the west side of the pool, is drilling at 1,235 feet. The South Coastal Oil Co.'s No. 1 is at 1,765 feet. The Yount Lee Oil Co. is rigging No. 1 Latrielle on the east side for a deep test, and The Texas Company's No. 103 Latrielle is drilling deeper. No. 2-B is rigging.

In the Edgerly Pool, the Rex Petroleum Co.'s No. 5 Hunter is around 3,985 feet. The Gulf Refining Co.'s No. 42 Bright-Penn lease is below 3,640 feet with No. 43 rigging. The Green Oil Co.'s No. 8 Moore is at 3,124 feet. The Hercules Oil Co.'s No. 1 Paraffine is working over. McDaniel and Ellis' No. 1 Ecker is working over.

A review of the Coastal detailed drilling report shows 11 wells drilling below 5,000 feet and one below 6,100 feet. Of the holes at such unusual depths, nine are in the new deep extension at Spindletop and one in the Lockport,

(Continued on Page 218)

VICTAULIC
FLEXIBLE LEAKTIGHT COUPLINGS



Pampa, Texas,
May 14, 1927.

Mr. J. A. Morgan,
c/o Smith Separator Co.,
Tulsa, Okla.

Dear Sir:

No doubt it will interest you to know about a vacuum test that was made on a 6-inch Victaulic Joint by the Skelly Oil Company at the Shaffer Gasoline Plant Number 1.

This was the test: Two pieces of 6-inch pipe grooved about 2 ft. long were joined together with a 6-inch Victaulic Joint, the outer ends were capped and welded; on each of the two 6-inch pieces were welded a half-inch collar. One of these collars to be used for a mercury connection and the other for a vacuum connection. All the joints being made up tight, vacuum was pulled on this container until the mercury registered 25.6 inches, barometer 28.64. Then valves were closed and vacuum allowed to remain and the mercury did not show any decrease as long as the test was made, this being about a five-minute period - this satisfying all concerned.

Second test was: We put this container in a barrel of water and put the same vacuum as before to see if any water would pass through the joint. But before taking the joint apart while we still had 25 inches of vacuum on the container, we removed the bolts and both halves of the Victaulic joints, on the ground and removed the container from the water barrel and stood it on end leaving only the rubber to hold the vacuum and in this event it dropped to 23 inches and held perfectly tight. Then the question came up as to the 2-inch vacuum, so we released the vacuum to 2 inches and the test was just as satisfactory as the one before.

These tests proved, without the shadow of a doubt, that the Victaulic Joint would stand as much vacuum or more than any other.

Those witnessing the test were: Mr. Lee Creager, assistant supt.; Mr. John Rush, Pipe Line foreman; Mr. B. J. Haslan, gas tester for the Skelly Oil Company; and myself.

Hoping that this information will be of interest to you, I am

Yours very truly,

H. C. Dahl.

P. S. When we took the joint apart to examine for any water, there was not a trace of water to be found inside the container.

Its extreme simplicity of construction and application make the Victaulic Coupling the logical selection by leaders in the Oil Industry.

Illustrations show a Victaulic coupled .20" gas gathering line to gasoline plant of The Skelly Oil Co., Pampa, Texas, being inspected by Skelly executives. The letter shows tests that were made previous to the installation of Victaulic Couplings for this line.

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Duchesne Structure To Be Given Test

Midwest Exploration Co. To Deepen No. 1 Early in the Uintah Basin. Originally Discovered by Shell Subsidiary

By F. B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., July 23.—Another test of the oil-shale-bearing Tertiary formations is assured, subject to government approval, by a contract just closed by the Midwest Exploration Co., a subsidiary of the Midwest Refining Co., and 62 other parties, under which the Midwest agrees to test the Duchesne structure in the Uintah Basin, Utah. The structure lies in Duchesne County, south of the town of Duchesne, about 70 miles west of the Colorado line. It consists of a long and rather narrow zone of folding and faulting extending east and west for a distance of about 20 miles, and is the California, rather than the Rocky Mountain, type of structure.

The anticline was first discovered and worked out by geologists of the Matador Petroleum Co., the Royal Dutch-Shell's Rocky Mountain subsidiary, the original discoverer being Dr. Justus H. Cline, who found the structure in September, 1920. All available land in the area was leased by the Matador and arrangements made with the holders of government prospecting permits for the drilling of a joint test, but a change in policy by the Dutch-Shell's London office with regard to American wildcatting led to the transfer of the Dutch-Shell's Duchesne interests to the Ute Petroleum Co., which Max W. Ball, who had been the Dutch-Shell's Rocky Mountain manager, resigned his connection to organize. The Ute company in turn made a contract with the Utah Southern Oil Co. of Denver and Salt Lake, and the two companies drilled a well, known as No. 1 Early, to a depth of 2,867 feet. This well encountered its first oil showing at 35 feet, and had at least a dozen shows of oil and four strong shows of gas. During the last thousand feet of its drilling the slush pit was covered with oil most of the time. At 2,867 feet the well was shut down for lack of funds, and has remained idle until the present.

Tests in Three States

The Midwest has now contracted, subject to approval by the Interior Department of certain applications for extension of government prospecting permits, to take over the Early well and deepen it to 3,500 feet, with the option of drilling a second well on completion of the Early well. Geologists familiar with the area expect that from three to seven sands will be encountered in the next 700 feet. The formation is the Green River Tertiary, the oil shale formation of northeastern Utah, northwestern Colorado and southwestern Wyoming. The Tertiary formations of this tristate region, heretofore given scant attention by oil operators, will this year receive adequate tests not only at Duchesne, but on the Piceance Creek structure in Colorado and by further drilling in the Hiawatha and LaBarge Fields in Wyoming.

Among the companies which have holdings on the structure are the Utah Southern Oil Co., Ute Petroleum Co., Argo Oil Co., Kinney Coastal Oil Co., Ohio Oil Co. and Continental Oil Co. It is understood that all of these, as well as a large number of individuals who have interests in the area, have joined with the Midwest in the present contract.

Wyoming Operations

The Producers & Refiners Corp. has sent a crew of clean-out men into the old Torchlight Field near Basin, in the Big Horn Basin. This crew will start work at once on the shallow wells there, pull tubing and rods, run in a string of clean out tools and clear the sand, then possibily shoot each well. The company has shipped in a machine with the crew and the work is being done under the direction of W. W. Rusk. Later on this summer, the Producers & Refiners Corp. will start drilling a deep well in the Torchlight Field.

In the Oregon Basin there is much interest in holdings that are being held for release or sale outright. The Ohio Oil Co.'s big well that discovered the deep sand is almost closed in but five other wells are drilling, including two of the Ferdig interests. Many operators who wish to drill in the Oregon Basin say that the holders of land there are asking too high prices.

The Buffalo Basin gas has been turned into the new Midwest and Wyoming Gas Co.'s pipe line and the refineries at Greybull are now using the Buffalo Basin gas for fuel under the stills. The work of laying the line is practically finished though a part of the crew is laying a lateral to the Industrial School at Worland. The Graybull refineries started to use this gas on July 17, just after the line was given its second test.

The Continental Oil Co. has started rigging up in the Oregon Basin, Section 16-51-100, for a deep rotary test and this well will determine whether the rotary or cable tool type of rig is the best for the field as it will be drilled in competition with cable tool strings.

New La Barge Test

The Texas Company will make one more diamond drill test in LaBarge before definitely abandoning that field. This company has drilled 12 diamond drill holes on its leases in LaBarge and from same the company did not find anything worthy of commercial development according to reports.

The Midwest Refining Co. has reached an agreement with the California Petroleum Co. to lay a pipe line under the latter firm's permit, from the field to a rail point. However, the Midwest Refining Co. wants a production around 2,000 bbls. daily and it is still doubtful if the field will make this amount from the wells at present.

The Rainbow Oil Co. completed a new producer in Section 3-26-113 at 1,000 feet. This is the No. 5 well of this company and it appears good for 50 bbls.

In the Big Muddy Field, the deep well of the Continental Oil Co., No. 39-A, is making 250 bbls. on the pump now and the hole is stopped at 4,317 feet.

In the Salt Creek Field, the Midwest Refining Co. completed five new wells the past week, one of these being a big Lakota gusher and another is a freak well that was started for the Lakota but has found production in the shale above that sand.

The Midwest Oil Co. has a small pumper making about 11 bbls. at 1,200 feet in the first Wall Creek sand in Section 26-40-79. The Mountain & Gulf Co., in Section 12-40-79, has a producer in the second Wall Creek at 2,512 feet that will do 90 bbls. In Section 26-40-79, the Wyoming Associated Oil Co. has a producer making 61 bbls. from the shale above the Lakota. This well was started as a Lakota sand well. In Section 23-40-79, the Wyoming Oil Fields Co. has a Lakota sand gusher that started off at 3,142 bbls. and was shut in at once after testing its production.

While the LaBarge Field is not coming up to expectations the southwest part of Wyoming will see several wildcats starting there in the coming two weeks. The California Co. is blocking leases in Township 30-114 and Taylor and others of Los Angeles have made a location in Section 8-13-119, while Cooper and others will drill in Section 28-14-119 on the Hilliard Dome.

In eastern Wyoming the wildcats are nearly all shut down. On the Glendo Dome, southwest of the town, the M. L. Focken well is to be abandoned but only the 8¼-inch pipe will be pulled as the well is making around 5,000 bbls. of fresh water and this flow will be used for irrigation on the ranch on which the well is located. The Valley Royalty Co. of Alamosa, Colo., has taken over the leases and will drill a second well.

Utah Development

It is reported from Salt Lake City that the Crystal Carbon Co. has completed a large gas well in the Cisco Field, where the company operates a carbon black plant. At present no detailed information is to be had, but the report states that the well is a heavier producer than the company's last well, and also that the gas is exceedingly wet.

There is a possibility that the Cane Creek discovery well, which found encouraging signs of production in the upper strata, may be deepened another 500 feet from its present depth of approximately 5,000 feet. The well was drilled by the Midwest Refining Co. for the Utah Southern and the Utah Oil Refining Co. Operators and land holders in that area are loath to give up hope of production as the well flowed by heads for some time from the 2,028-foot level before the horizon was cased off to stop water intrusion from above. The latest decision on the part of geologists is that the oil came through a crevice from a sand on the flanks of the dome, and it is probable that some holes will be sunk to test this theory.

The Cedar Mesa test of the Utah Southern Oil Co. in San Juan County has been held up by floods in the San Juan River. Roads have been badly washed out and the rig also suffered damage and had to be repaired. Drilling will resume next week.

Colorado Well Interesting

The Marland Oil Co.'s No. 1 Clark, on Section 21-3-91, on the Thornburg Dome in Moffat County, is attracting a great deal of attention at this time. This is the well which came in late last winter as a 40,000,000-foot gasser from the Dakota sand at 2,157 feet. After the Midwest Refining Co. brought in a large Sundance sand producer on the Iles Dome in the same county, the Marland decided to deepen the Clark well to the same horizon. Interest in the result was so great that an enormous crowd gathered to witness the penetration of the cap rock above the sand, but nothing but showings of oil and gas and a little water was encountered in the shale under the cap. The sand was entered at about 2,640 feet, and a showing of oil was reported 40 feet deeper. It is estimated that the sand is over 500 feet deep, and it is entirely possible that the desired production may be encountered before the sand has been drilled through.

The Midwest Refining Co. is completing a survey for a pipe line from the Iles Dome to Craig, Colo., and Denver dispatches carried the report that the line would be laid this summer. It is not the intention of the company, however, to do any construction work until a larger production is developed in the field. However, all data will be held in readiness until the time comes for the line to be laid.

Field reports from Colorado show only routine work, with no completions. The Texas Production Co. is rigging up for a new well on Section 6-6-86, on the Tow Creek Dome, and the Great Dome Oil Co. has spudded in on Section 3-

(Continued on Page 189)

GOOD SHOWING OF LIGHT OIL FOUND IN SOUTHEASTERN BRITISH COLUMBIA

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 23.—In southeastern British Columbia, the well of the Glacier Oil Co. in the Sage Creek area has been shot at 3,280 feet developing considerable gas and a good show of light oil. The oil tests about 44 degrees. Following the shot the oil is reported to have flowed 50 feet over the derrick. No estimate of the production has yet been made. The shot was made by W. A. Lester, district manager for the Eastern Torpedo Co. in the Rocky Mountain region, who made a round trip of 2,484 miles from Casper to the well and back. Mr. Lester motored to Shelby where he was joined by the company's Montana manager, W. H. Ramsey. With 500 quarts of nitroglycerin secured at Shelby they drove via Helena to Belton, Mont., and Glacier Park, and thence 12 miles across the international line into British Columbia, where the Glacier Oil Co. test is located.

The Glacier Oil Co. test has been in progress for several years and is the latest of a number of tests drilled in this section of the Rocky Mountain area of southern British Columbia and southern Alberta. The area includes the Flathead Valley and Sage Creek districts of southeastern British Columbia and the Oil Creek and Pincher Creek fields of southwestern Alberta. The area first attracted the serious attention of oil men about 1900. Before this, in the nineties, it was reported on by Doctor Dawson, then head of the Geological Survey of Canada, and was later inspected by James McAvoy, also a former member of the survey. Between 1900 and 1903 considerable drilling was done in the vicinity of Oil City, the tests including the Lineham well on the Alberta side, which for a while had a small commercial production. Shortly before the Calgary boom, the Gloin interests of Calgary drilled on Kishinena Creek on the British Columbia side; and at the time the Calgary boom was on, the Original Discovery Oil Co. took over the old Lineham well and tried to bring it back into production. There has been occasional drilling since then in the Flathead and Sage Creek areas. Surface seepages of light oil are frequent on the creeks, and in the various tests drilled oil has been met at several horizons, though usually not in commercial quantities.

Test Cost $250,000

It is reported that the Glacier Oil Co.'s test, which is financed by Vancouver, B. C. interests, has cost approximately $250,000. The rig was burned down three times and a couple of strings of tools have been lost in the hole. The deep pay was apparently found in the Devonian limestone. A shallow pay was found on the same structure at approximately 200 feet depth. The production is similar to the light crudes of the Turner Valley, and

(Continued on Page 221)

Looking Down a Long Row of Whirling Coopers

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Have you ever found a Cooper operator anywhere who wasn't loyal to his Coopers? There just isn't a real man living who can turn traitor to a station of Cooper engines, because they are so faithful and require so little in return.

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Deep Sand at Seal Beach Being Tested

Next Three Weeks Will Help Decide What May Be Expected. Producers Completed From More Shallow Level

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 23.—The California Petroleum Corp. was the second operator to pick up the deep Wasem sand in the Alamitos Heights section of the Seal Beach Field and, unless something unforeseen develops, a production test will probably be made within the next two weeks. Several other wells are also headed down with this sand as their objective, and it looks as though this zone will be thoroughly tested out within the next three weeks. Completions in the Selover zone during the past several days include several good wells, among which was the California Eastern Oil Co.'s No. 1 Fueller, which came in flowing 2,260 bbls. of 26.2 gravity oil daily from 4,910 feet. This well is located in a block which was razed by a fire two or three weeks ago. The California Eastern completed three other wells during the current period, including No. 1 Fleming, a 700-bbl. flowing well from 4,920 feet, and No. 1 Ostaff, which came in a short time later doing 770 bbls. from 4,910 feet. The smallest of this company's quartet of new wells was No. 3 Judson, which was listed for completion at 4,960 feet, from which depth it started off doing 432 bbls. of clean 27.2 gravity oil daily. No. 1 Parsons and No. 1 Raymond are due in within the next 48 hours.

The Petroleum Securities has just closed a rather busy week, during which time the company recompleted three former producers and finished one new well. The latter was No. 5-A Bryant, drilled to 4,901 feet and finished with a 4¾-inch oil string. This well can be advantageously deepened in the event that the second, or Wasem sand, proves productive, as the only permanent pipe landed includes 500 feet of 15½-inch and 4,630 feet of 8¼-inch. It is needless to say in this connection that this well will be deepened immediately in the event that the lower zone proves productive, as it only started off doing 200 bbls. daily from the Selover sand. The three recompletions listed by the Petroleum Securities showed an aggregate production of 1,132 bbls. On Bryant Lease "A" No. 1 was returned to production flowing 365 bbls. daily after being deepened from 4,741 feet to 4,965 feet, while No. 3 came back flowing 272 bbls. after being deepened from 4,712 feet to 4,954 feet. No. 4 Naples, which was originally completed in April doing 2,500 bbls. from 4,736 feet, was returned to production several days ago flowing 495 bbls. of clean 25.8 gravity oil after being deepened to 4,975 feet. These wells are all Selover zone producers, the additional work done since original completion consisting only of taking a little more penetration in the oil sand.

Standard Gets Producer

The Standard finished a rather nice well when No. 11 San Gabriel in the older section of the field was turned loose from 4,683 feet. Flowing through a ¾-inch bean under a pressure of 660 pounds, this new producer tanked 838 bbls. of clean 26.6 gravity oil during the initial 24-hour test. The Standard has two other potential producers under way on the San Gabriel lease, and both of them should be finished within the next 15 days. Paul Getty recompleted No. 1 Cleaver after redrilling and deepening it from 4,725 to 4,952 feet, and this well, which came in doing 3,000 bbls. per day back in March of this year, was returned to production a few days ago flowing 580 bbls. of clean 25.4 gravity oil. No. 2 Cleaver was put on a compressor after being deepened to 4,949 feet, and it is doing 222 bbls. of clean 25.6 gravity oil daily. This well, by the way, was first completed in April of this year doing 3,175 bbls. from 4,705 feet. Production declined some time afterward, however, and it was recompleted again in June, doing 1,160 bbls. from 4,852 feet. The present job is therefore the second time this well has been recompleted since originally finished last April. The Hauser Petroleum Corp. put its No. 2 Alamitos in the town lot area of the Seal Beach Field on a preliminary pumping test about 10 days ago, but it pumped nothing but water for nearly an entire week. It has cleaned up to some extent since that time, however, and is now being listed as a 320-bbl. pumping well from 4,813 feet. The present output is cutting around 20 per cent, but notwithstanding this unfavorable condition the well will be kept on production. The Marland wound up the week by recompleting No. 15 Bixby in the Selover zone after redrilling and deepening it to 4,785 feet, from which depth it was returned to production flowing 1,610 bbls. This rejuvenated well was originally finished last April in the Bixby zone, doing 730 bbls. from 4,435 feet.

Huntington Beach

Daily production in the Huntington Beach Field has been holding fairly steady for the past several weeks, although of course there is a definite downward tendency due to normal settling of older producers. This field will continue to decline quite regularly from now on, although the drop each week will not be heavy. Two new wells were finished in the town lot section during the past few days, neither of which, however, exceeded expectations. The Crudoil Co.'s No. 8 resulted in a 120-bbl. pumper from 4,322 feet, while E. L. Craigen's No. 1 Ames started off at a 260-bbl. clip from 3,985 feet. The former has just completed No. 10 Huntington, but it has not yet been put on a production test. The San Martinez Oil Co. recompleted No. 1 T. & W. as a 185-bbl. pumper from 3,900 feet after plugging back from 4,557 feet. This company's No. 1 Hanke, an outpost in the extreme eastern part of the town lot area near Ninth Street, showed considerable gas during the early part of the week on a preliminary test, but it has failed so far to show any appreciable indications of crude oil production. This well has been carried down to 5,176 feet in search of deep production, but was later plugged back to 4,050 feet, from which depth an attempt is being made to secure commercial production.

Long Beach

One new well and a recompletion sums up the result of work in the Long Beach Field during the past seven days. The former was No. 2 Merritt of the Painted Hills Oil Association, a 125-bbl. pumper from the shallow sand at 3,332 feet. The recompletion was the Poppy Oil Syndicate's No. 2 Turner, cleaned out to bottom, 4,751 feet, and returned to production, flowing 190 bbls. of fairly clean 23.8 gravity oil daily. The Richfield Oil Co. has just spudded in No. 14 on the Haas lease, which has proven one of the most productive pieces of property in the Long Beach Field, and simultaneously started rig construction for No. 1 Kelly, another new well. Graham & Loftus are also starting a new well on the Butler property and, while the Acme Petroleum and H. R. MacMillan spudded in new wells a week or so ago, all three should come into production along about the same time. The Shell should finish No. 7 Alamitos within the next week or 10 days and this well should be followed into production by No. 10 Cresson, one of four drilling projects under way on this lease at the present time.

Richfield-Brea Olinda

Drilling operations at Richfield indicate the completion of at least 8 or 10 new wells in this field during the course of the next 30 days. This work is not limited to any single concern, although some of course are running more strings of tools than others. The Union Oil Co., discoverer of this field, is the largest single operator with six drilling wells on three leases actually under way and rigs going up for two more on the Yorba Linda property. The General Petroleum has four wells nearing completion on the Pedeco, Stern and Thompson leases with a rig going up for No. 1 Atwood, a new well. The Chanslor-Canfield Midway Oil Co. has two potential producers on the Richfield property, while the California Petroleum has one each on the Hartwell, Krug and Consolidated holdings. The Continental should finish No. 4 Kraemer within the next day or two, as the well is at present being prepared for production. The Standard recently spudded in No. 3 Anaheim and No. 2 Vejar, while No. 1 Son should start actual drilling within the next day or two. The Shell's No. 2-A in the Puente section of the Brea Olinda Field cored a few streaks of oil sand at 5,230 feet, and this well, which is scheduled to be a definite deep test of the Shell's holdings in this vicinity, will be watched very closely from now on. No.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	220,574	31,511	283,386	40,484	4,874,476	7,464,287
Fuel oil	132,766	18,967	133,864	19,123	4,627,262	3,203,612
Diesel and gas oil	74,105	10,586	76,333	10,905	1,763,807	1,565,654
Gasoline	240,780	34,397	154,020	22,003	4,539,668	3,720,313
Tops	.....	.....	.....	.....	.....	149,906
Coastwise—						
Crude oil	546,746	78,107	374,201	53,457	14,420,811	13,535,873
Fuel oil	343,544	49,078	125,946	17,992	6,533,393	5,382,934
Diesel and gas oil	7,632	1,090	.....	.....	191,283	125,672
Gasoline	319,066	45,581	114,555	16,365	4,328,067	3,950,986
Kerosene	8,302	1,186	.....	.....	68,645	138,950
Tops	.....	.....	.....	.....	62,570	341,139
Exports—						
Crude oil	.....	.....	.....	.....	1,580,894	2,366,088
Fuel oil	781,203	111,600	410,023	58,575	15,374,141	8,919,749
Diesel and gas oil	20,490	2,927	.....	.....	761,131	200,959
Gasoline	28,742	4,106	93,043	13,292	2,169,797	2,596,601
Tops	.....	.....	.....	.....	227,204	.....
Kerosene	.....	.....	70,071	10,010	1,315,962	1,242,903

TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	505,608	856,807
Gasoline	.....	.....	145,416	20,774	1,185,092	608,848
Tops	.....	.....	.....	.....	.....	73,698
Lubricants	.....	.....	73,940	10,563	244,826	157,147
Coastwise—						
Fuel oil	54,502	7,786	82,880	11,840	3,125,435	3,063,426
Diesel and gas oil	4,160	594	.....	.....	207,012	.....
Gasoline	52,716	7,531	176,297	25,185	2,889,110	2,481,706
Kerosene	.....	.....	.....	.....	145,681	216,764
Exports—						
Fuel oil	.....	.....	64,917	9,274	1,268,912	2,280,103
Gasoline	.....	.....	.....	.....	1,812,804	1,090,288
Kerosene	.....	.....	.....	.....	535,647	1,251,859
Lubricants	.....	.....	.....	.....	9,120	18,051

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well and Location—	S-T-R	Depth	Status
General Pet., No. 1 Guiberson, Potrero	35- 2-14	rig	wait. devel.
Cal. Eastern, No. 1 Cypress, Potrero	27- 2-14	5,043	suspended
Associated, No. 1 Cypress, Potrero	34- 2-14	4,430	suspended
Associated, No. 2 Cypress, Potrero	2- 3-14	5,240	gr. sd. drilling
Getty, Geo. F., No. 1 Cypress, Potrero	35- 2-14	rig	wait. devel.
Getty, Paul, No. 1 Cypress, Potrero	35- 2-14	rig	wait. devel.
California Pet., No. Armour, Potrero	35- 2-14	rig	wait. devel.
Cole, Fred. E., No. 1 Cypress, Potrero	35- 2-14	rig	wait. devel.
Dill Oil Co., No. 1 Cypress, Potrero	35- 2-14	rig	wait. devel.
Walker, Fred., No. 1 Cypress, Potrero	35- 2-14	rig	wait. devel.
Getty, Geo. F., No. 1 Tubbs, Rivera	25- 2-12	4,401	gr. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	22- 3-14	4,128	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	3,170	hd. sd. drilling
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	fishing
Carr, O. P., No. 2 Foster, San Juan Capistrano	13- 8- 8	2,700	gr. sd. drilling
Thomason & McCoy, No. 1 Rinz, Saugus	27- 5-16	902	gr. sd. drilling
Southwest Pet., No. 1 Ramsauer, Watts	4- 3-13	1,470	hd. sd. drilling
San Clemente Oil Co., No. 1 Peck, Hawthorne	20- 3-14	608	sd. drilling
Shell, No. 1 Allec, Placentia	31- 3- 9	1,830	hd. sd. drilling
Standard, No. 1 Olive, Orange County	17- 4- 9	1,694	hd. sd. drilling
Standard, No. 1 Rindge, Palms	36- 1-15	rig	in litigation
Hemet Pet. Co., No. 1 Ward, Riverside County	9- 5- 1	1,295	hd. sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Associated, No. 1 Smith, Kettleman Hills	12-23-18	2,043	suspended
Bolsa Chica, Well No. 1, Kettleman Hills	30-23-19	2,760	bail. oil
General Pet., No. 1 Burbank, Kettleman Hills	30-23-19	3,105	testing
General Pet., No. 2 Oschener, Kettleman Hills	26-22-18	3,684	gr. sd. drilling
General Pet., No. 1 Dome, Kettleman Hills	4-24-19	rig	rigging up
C. C. M. O., No. 1 McGlashan, Kettleman Hills	17-24-19	4,370	gr. sd. drilling
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,602	gr. sd. drilling
Gilbert, W. M., No. 1 Barrick, Kettleman Hills	20-23-19	rig	rigging up
Ahlburg Gas Co., Well No. 1, Kettleman Hills	7-23-23	rig	standing
Milham Explt'n., No. 1 Kettleman, Kings County	2-22-17	3,598	fishing
Shell, No. 2 Berlywood, Moorpark	32- 3-20	4,200	hd. sd. drilling
C. C. M. O., No. 1 Hobson, Ventura County	22- 3-24	6,545	sidetracking
C. C. M. O., No. 1-B Hobson, Ventura County	16- 3-24	4,540	sd. sh. drilling
C. C. M. O., No. 1 State, Ventura County	17- 3-24	150	electric equip.
C. C. M. O., No. 1 U. S., Ventura County	17- 3-24	mtl.	building rig
Continental Oil Co., No. 1 Newhall, Ventura County	36- 4-18	2,595	testing
Continental Oil Co., No. 1 Burnham, Ventura County	22- 5-18	2,811	gr. sd. drilling
Standard, No. 1 Camarillo, Ventura County	29- 2-20	5,469	circulating oil
Standard, No. 1 Montalvo, Ventura County	17- 2-22	6,270	hd. sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	4- 4-18	2,815	hd. sd. drilling
Parkford, E. A., No. 1 Strathern, Ventura County	5- 2-18	3,600	hd. sd. drilling
Star Petroleum, No. 1 Canet, Ventura County	13- 3-23	5,281	sd. sh. drilling
Richfield, No. 1 Janes, Ventura County	16- 5-18	3,509	gr. sd. drilling
Richfield, No. 27 Piru, Ventura County	35- 5-18	1,580	gr. sd. drilling
Milham Explt'n., No. 2 Buttonwillow, Kern County	8-28-23	4,662	clean. out
Milham Explt'n., No. 3 Buttonwillow, Kern County	7-29-24	4,019	test for gas
Pacific Eastern, No. 1 Bakersfield, Kern County	6-30-28	4,392	testing
Kerwin & Seal, No. 1 Edison, Kern County	4-30-29	rig	rigging up
Royal Pet., No. 1 Machado, Kern County	31-30-28	mtl.	building rig
C. C. M. O., No. 1 Quinn, Delano	23-25-27	2,240	little show
Miocene Oil Co., No. 1 Bluff, Kern County	34-27-28	rig	rigging up
Standard, No. 1 Bacon, Kern County	27-28-20	4,290	br. sh. drilling
Petroleum Sec., No. 1 Aniotz, Monterey County	2-22- 9	2,503	hd. sd. drilling
Richfield No. 1 Wreden, San Luis Obispo County	10-29-17	721	land pipe
Shell, No. 1 Cowell, San Mateo County	8- 6- 5	3,980	hd. sd. drilling
Shell, No. 1 Murphy, Petaluma	29- 5- 6	5,672	hd. sd. drilling
Shell, No. 1 Ielmorini, Sonoma County	14- 5- 7	1,820	hd. sd. drilling
Thomas & Hammill, Well No. 1, Alameda County	16- 3- 3	1,150	hd. sd. drilling
Continental Oil Co., No. 1 Sargent, Santa Clara County	31-11- 4	2,516	hd. sd. drill.
Elliott & Clarke, No. 1 Marcos, Santa Barbara County	34- 7-29	....	building road
Becker, Geo. F., No. 1 Summerland, Santa Barbara Co.	33- 4-25	3,005	gr. sd. drilling

15 on the Orange lease, by the way, is also getting rather deep, although this property requires about 5,500 feet of hole for production. The Birch Oil Co. is preparing No. 2-A for a production test after redrilling and deepening to 5,555 feet and the outlook is quite favorable for production. No. 13 a new well, however, at 5,725 feet, is not showing up as well as anticipated, although it looks good for at least small production at this depth. A little more hole, however, may change the out'ook and result in the completion of a large flowing well. The Union's No. 3 Olinda, one of the most interesting drilling projects under way in the Brea Olinda Field, passed out of the oil sand at 3,796 feet and, although core samples indicate a barren gray sand at 3,796 feet, drilling will continue in order to make a deep test with a view of getting a line on the possibilities of this property which was acquired by the Union from the Olinda Land Co. two years or so ago.

Round Mountain

The Elbe Oil Co. finished its second producer in the Round Mountain Field, located in Kern County, at 2,161 feet, but a definite test has not been made due to the fact that the 8¼-inch oil string tore loose from its collar and dropped 6 feet into the hole. The Elbe's new well, while it is not yet definitely on production, is 54 feet deeper than No. 1, located a little less than a mile north. The St. Helens Petroleum is pushing work ahead for an ear'y spud in Section 13-28-28, and water lines are at present being laid from the old Commerce well south of Round Mountain. The L. & B. Producing Co. is also running in water lines from the same well, and both of these projects should get under way shortly. The Petroleum Securities entered the Round Mountain Field during the early part of the past week by concluding a lease with W. T. Wells covering 160 acres in Section 24-28-28, west of the Elbe's discovery in Section 20-28-28. The Petroleum Securities acquired this property on a one-eighth roya ty basis and is in the market for any additional property available.

Goleta

The Miley Exploration Co. finished another new well in the Goleta Field of Santa Barbara County and, wh le the initial production registered, 150 bbls. daily, is considerably lower than secured heretofore, the gravity of the oil is a litt'e higher, running 43.1 degrees. Miley's New well, No. 7 Tecolote, was drilled to 1,441 feet and finished with a 4¾-inch liner. No. 1 Tecolote, the deep test in this field, has just passed the 4,535-foot level, with no important showings logged since passing through the present producing horizon. Miley should spud in No. 1 Elwood, an offset to the California Eastern's No. 1 Doty, within the next two or three weeks, but will probably start dril ing on Nos. 6, 8 and 9 on the Tecolote property before that date. The Barnsdall encountered a very encouraging showing of oil and gas in its No. 1 Edwards, situated approximately 2 miles west of the Miley discovery well, and, while the outlook is rather promising, commercial production is not anticipated above the 2,500-foot level. The present show in No. 1 Edwards at 1,890 feet correlates with the shallow sand found in the Miley discovery at approximately 650 feet. C arence Berry also picked up some favorable indications and the show around the 1,500-foot level is presumed to correlate with the surface showings of the Miley Exploration Co.'s Tecolote wells, which have not proven commercially productive in the shallow zone. The fact that these indications were found at about the same stratigraphic depth is interpreted as an indication that Berry's No. 1 Cavaletto is on the same structure, although it is over 2 miles east and a little south of present production. About half way between Clarence Berry's Cavaletto property and the M ley Exploration Co.'s Tecolote lease, the California Eastern Oil Co. is drilling ahead in No. 1 Doty at 1,487 feet. This property shou'd be somewhat deeper than the Tecolote lease, and production is therefore anticipated around the 1,600-foot level. The Transcontinental Oil Co., operating under the name of the Santa Barbara Oil Co., is directly offsetting Miley's Tecolote lease to the north and should complete another new producer soon.

Midway-Sunset

The North American Consolidated completed No. 10 in Section 32-31-24 during the early part of the past week, and this new well came in pumping 140 bbls. of 26.1 gravity oil from 3,927 feet. The Standard's No. 32 in Section 31-12-23, which blew in doing 3,000,000 feet of gas and a little oil from 3,427 feet last week, showed a very substantial drop in gas production, and the company has shut it in. In Section 27-31-23 the Standard's No. 4 failed to result in production at 3,845 feet and the company is making preparations to shoot the well with the idea of opening up the formation and finding out if there is anything there to produce. It is not common practice to shoot California wells, but the Standard, having everything to gain and nothing to lose, will do a little experimenting along this line. The curtailing of drilling operations in the Midway-Sunset Fie'd has been reflected in a smaller number of completions during the past 30 days and new wells during the summer months will likewise be smaller than usual.

Northern California Wildcats

The Pacific Eastern's Union Avenue wildcat at Bakersfield in Kern County and the Chanslor-Canfield Midway Oil Co.'s Hobson test in the Seacliff-Rincon area of Ventura County continue to be the center of interest among California wi'dcatters. Each of these holes has shown oil and gas with a good chance of coming into production, and it is needless to say that major operators are endeavoring to line up prospective acreage. The Standard thought enough of the showings found by the Pacific Eastern at Bakersfield to pay a cash bonus of $14,400 and a one-eighth royalty for a lease on 480 acres owned by the city of Bakersfield. The land acquired by the Standard is in Sections 3 and 10-30s-28e, and has been known for a long time as the Bakersfield sewer farm. It lies east of the well now being drilled by the Pacific Eastern Production Co. and is adjacent to the property held by the Pacific Eastern and General Petroleum. Many of the larger companies have secured protective holdings at Bakersfie'd due to the fact that part of this area has been subdivided into 5 and 10-acre parcels, but conditions in the Seacliff-Rincon area of Ventura County are entirely different inasmuch as the acreage in this section is held in large blocks, none less than 500 acres. Operators have nevertheless been acquiring the best land available, with the result that property within a 5-mile radius of the Hobson ranch has been pretty well tide up. The Chanslor-Canfield Midway Oil Co. has approximately 4,000 acres under lease, while the General Petroleum and Marland have about 500 each. This seems to cover the entire structure at Rincon, although later developments may change the aspect of the situation.

The Standard is just completing preparations to test out its Camarillo wildcat and something definite should be known of this well's potentiality within the next few days. The Standard created considerable excitement at Montalvo in Ventura County last week by circulating oil in an attempt to loosen a stuck drill pipe. The appearance of oil on the derrick and around the well caused visitors to surmise that the company had encountered oil. The Milham is still hard at work in the Buttonwillow area and will probably have a definite line on the possibility of developing gas production in this section within the very near future. Actual drilling has not yet gotten under way on either of the projected tests to be dril'ed at Edison or in the Greenfield section of Kern County, but work is definitely expected to get under way soon. Leasing has been quite brisk in both the Edison and Greenfield sections. Wildcatters in the Kettleman Hills area of Kings County are still battling with water, but appearances indicate that the Bolsa Chica may possibly be successful in developing clean production. At any rate the company has run in a string of 8¼-inch and will make a pumping test within the next week or 10 days. George F. Becker, who is drilling a deep test in the Summer'and Field, has resumed drilling with the intention of making a little more hole before deciding to make a production test. This hole has showed oil and gas indications from time to time and it was on the basis of this that the Shell negotiated several substantial leases, including Ortega Hill and surrounding property.

Southern California Wildcats

The Smith Petroleum's wildcat at Hawthorne has the boys guessing as to the possibilities of this area, as this company's No. 1 Johnson has showed a rather high gas pressure and on several occasions pumped 50 or 60 bbls. a day. Many of the larger companies, although their geological staffs do not consider this area favorable, are nevertheless watching developments with interest. The Smith Petroleum is rather reluctant to expend any more money in a further test, but some of the off'cials of this concern have organized the San Clemente Oil Co. and are rigging up rotary equipment for an early spud in No. 1 Peck. Potrero, with 8 or 10 derricks standing and only one wildcat actually under way, looks like a graveyard. At least the hopes of many have been buried there, as the Associated is the only concern which can possibly benefit by the discovery of a new field, since most of the surrounding acreage has already been proven sterile. The Associated is still working on its No. 1 Johnson, which seems to be doomed to failure.

The Petroleum Securities has a rig going up for an outpost to be drilled in Section 25-3-9 along the edge of the Richfield district and drilling should get under way very shortly. This well, which is a semiwi'dcat, is about 1,200 feet north and east of the Standard's No. 1 Kraemer, a deep test. George F. Getty, who is drilling No. 1 Tubbs on a sublease from the Marland, has this Rivera wildcat down 4,401 feet, the prevailing formation being a barren gray sand. Neither of the Shell's two southern California wildcats, No. 1 Mission, a 3,165-foot hole in the San Fernando Valley, or No. 1 Alec at Placentia, down 1,830 feet, showed any favorable indications during the week. The Standard's wildcat near Olive also failed to show any change for the better.

HOSPAH DISTRICT LEADS ACTIVITY WITH 11 STRINGS IN OPERATION

By Special Correspondent

FARMINGTON, N. Mex., July 23.—Development work has been going steadily forward in the field this week, with the Hospah district taking the lead in interest and activity. Eleven strings of tools are in opera ion in that district without counting minor operations. The strike of oil in Midwest well No. 1, while officially confirmed, proved to be of no commercial consequence, more than an encouraging feature.

The Mid-Continent Oil Co., operating in the Bloomfield district, Section 14-29-11, on the Ransom tract is drilling and nearing the producing area. It has been handicapped by having to haul water and has slowed operations.

The Portage Oil Co., operating on the Glade structure, in the SW, Section 25-31-13, has run 8½-inch casing at a depth of 485 feet and drilling below 500 feet.

The Paramount Petroleum Co., successor to Wiley & Craft, is arranging to make a tes of its well in the Bloomfield district, Section 17-29-11, the first of next week. It has been working to get a water shut off since striking the oil sand some three weeks ago.

C. C. Michener, president of the San Juan Petroleum Corp., is expected to arrive here next week when an announcement of its future operations will be made public. It is the general belief it will put down another well.

The Huerfano Oil Co., operating in the Bloomfield district south of the San Juan River, Section 25-29-11, has reached a depth of 585 feet and has been troubled by a loose sand that ran in as fast as it could be bailed out.

The T. C. N. Oil Co., operating in the Bloomfield district, Section 9-29-11, has cemented in its well and believes a good job has been made. It will drill it out in about a week. This was done to comply with the government regulations, although the hole was dry below 675 feet.

San Juan County

San Juan County, after lagging behind for several weeks with the week ending July 9, again took the lead for production in New Mexico, by the Table Mesa structure making an average of 1,000 bbls. per day for the week. The daily average pipe line runs by structures for New Mexico for the week ending July 9 was as follows: Table Mesa, San Juan County, 1000 bbls.; Rattlesnake, San Juan County, 320 bbls.; Hogback, San Juan County, 750 bbls. Total for San Juan County, 2,070 bbls. Artesia, Eddy County, 1,750 bbls. Total for New Mexico, 3,820 bbls. per day.

The officials of the Southwest Oil Co., a subsidiary of the Midwest Refining Co., have announced that drilling will be resumed on the Boundary Butte structure, in southeastern Utah, 90 miles north of west of Farmington. Drilling was suspended about three years ago when the legality of the leases was questioned by the Federal Government. Compliance with the new law that makes drilling on Presidential Proclamation Indian Lands permissible, requires that 30 days' advertising be done before starting operations. This has been completed. Drilling on the well was suspended at a depth of 1,538 feet and after a production of 30 bbls. per day in the Shinarump sand. The continuance of the test will be carried on jointly by the Southwestern Oil Co. and the Continental Oil Co., the latter to have charge of the drilling operations, and the test will be carried on down to the Goodrich sands of the Pennsylvania formation which should be some where near the 4,000-foot level. It was generally believed at the time production was secured from the Shinarump sand that the deeper horizons would prove commercially productive. The structure is a l a r g e one and several individuals and companies are interested in it. The Kinney-Coastal Oil Co. has acreage close in to the test well which is to be deepened. The permit holders include Ed McMahan Harrison, on whose acreage the joint test well is located, Thomas S. Harrison and Brimmer & Weeks. Farmington was the headquarters from which the operated when drilling was suspended.

A con'ract was entered into here this week whereby Perry Coon as trustee for himself and H. A. Moore secures C. S. Ringle to drill a structure located 2 miles south of the town of Mancos, Colo., Section 9-35-13. The first well will be put down on the Bert Hall deeded tract. The rig is on the location and drilling will start in the Mancos shale, much of which has been eroded away. It is expected that the Dakota sand, which is the objective, will be reached at about 1,200 feet.

Hospah-Seven Lakes Area

Activity continues in the Hospah-Seven Lakes district of McKinley C o u n t y. Eleven strings of tools are operating in that dis rict or are making arrangements to get started within a short time. Th's is considering only those who are actively going after production and leaving out those who are validating or have an acreage or stock selling objective. The Midwest Refining Co. has three rigs going, the Producers & Refiners, one; as have also the Continental, the Inland, Williams-Staplin, Easley, Dysart, and the Ohio. The latter will have two more going before long. Benedum-Trees will also be drilling again in a short time.

The Midwest Refining Co., operating in the Hospah district, is moving rig to location for No. 3 Hospah, Section

(Continued on Page 217)

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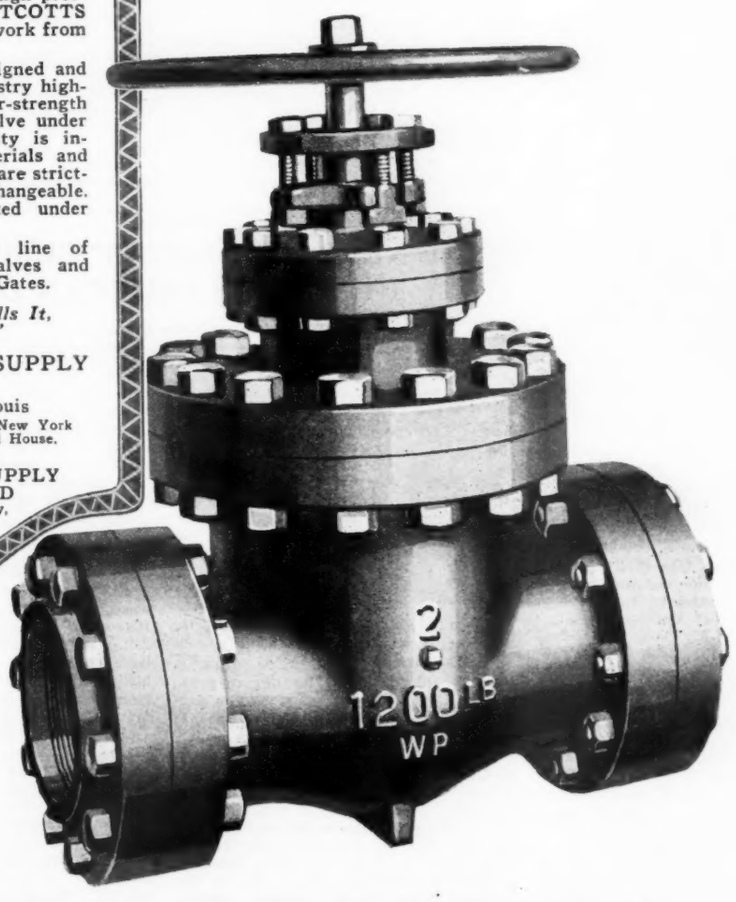

CONTINENTAL

Improve Properties in Eastern Fields

Operators Installing Compressors Which Will Aid Production When Situation Gets Better. Fair Completions

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., July 25.—From a very dull start, this week rounded out into something better than dry holes and small producers. Eastern operators continue to play a waiting game, improving old production and installing compressors for putting pressure on the declining sands. These very features may yet turn adversity into something better, for all will go toward lowering operation expenses when the market improves. The total of completions for the week was fewer, yet among these were some very fair wells, none of them a gusher but good dividend payers. More than half of the new wells brought in were gassers, which can be expected as additional reserves are being opened up, and which are better income producers than small oil wells at the current price of crude. Unfortunately, nine of the wells brought in were dusters. There are still quite a few wells approaching the sands, which are expected to be drilled in soon, but these are all in old established territory, and are not expected to increase the new production to any considerable extent, which is perhaps well, for there is a sentiment prevailing that a congestion in the eastern fields is not unlikely, and may be reached sooner than expected. There are also quite a few wells in West Virgnia shut down due to the lack of water, two of these within few feet of the sand.

The Kemrow Co. completed well No. 2 on the Lloyd Sandles farm, located in Section 21, Killbuck Township, Holmes County, to the Clinton and have a gasser good for 1,000,000 feet. In Licking County, Section 19, Hopewell Township, Robinson & Zahnizer completed well No. 1 on the A. R. Gutridge and others' farm to the Clinton and after shot it produced 60 bbls. the first 24 hours.

In Coshoction County, northeast quarter Section 18, Pike Township, the Leonard Oil & Gas Co. completed No. 4 on the Nancy Norris farm to the Clinton, a depth of 3,321 feet, and after shot it produced 75 bbls. the first 24 hours.

West Virginia Gas Wells

In West Virginia, the best well for the week was on the waters of Rocky Step Creek, Scott district, Putnam County. Here Falton and Franklin completed their test on the J. W. Gibson farm to the Big lime and have a gasser good for 800,000 feet, which was exceeded by their No. 2 on the same farm in the Big lime which is good for 2,000,000 feet. The best oil well of the week was in the Clay County Pool, Henry district, and was completed on the O. D. Stockley No. 58 to the Injun by the South Penn Oil Co., and it is good for a 35-bbl. producer.

Southeast Ohio

In southeast quarter Section 6, Ward Township, Hocking County, the Murray City Oil & Gas Co. completed their No. 9 on the H. M. Acker heirs farm to the Clinton at 3,450 feet, and after shot it is showing for a 15-bbl. producer. Charles L. Erb and others completed their No. 1 on the David Epler farm, Section 20, Liberty Township, Washington County, to the first Cow Run sand, at 800 feet. It is showing for 2 bbls. natural. The Coal Hollow Oil & Gas Co. completed their No. 4 on the R. T. and R. H. Burdette farm, in the west part of sub Section No. 23, Sailsbury Township, Meigs County, and it is averaging 2 bbls. a day from the Berea grit, at a depth of 1,708 feet.

The Ohio Fuel Gas Co. completed its test on the J. H. McFarland farm, Section 16, Richland Township, Holmes County, to the Clinton sand, and it is showing for 750,000 feet of gas and a small showing of oil.

In Section 6, Madison Township, Perry County, the Anna Oil Co. has a rig up for a test on the J. H. Denny farm. In the north part of Lot 290, Sutton Township, Meigs County, the Summer Oil & Gas Co. has started drilling its No. 3 on the William A. Roush farm. In the southern part of Lot 288, Sutton Township, Meigs County, the Penna Berea County started drilling No. 4 on the Hannah M. Capehart farm.

In Lot 290, Sutton Township, Meigs County, the Sumner Oil & Gas Co. completed its No. 3 on the William D. Boush farm to the second Cow Run sand, which is 90 feet below the first Cow Run sand, a depth of 718 feet. The well flowed about 20 bbls. the first two days, natural, and is estimated to be good for about 25 bbls. In northwest quarter Section 18, Sutton Township, Meigs County, the Ohio Fuel Supply Co. completed Carl J. and William R. Easterday No. 4 to the Berea grit, a depth of 1,842 feet, and after shot it is estimated to be good for about a 12-bbl. producer. In Hardy Township, Holmes County, Lot 21, the East Ohio Gas Co. completed its No. 5 on the W. H. Uhl farm to the Clinton, and the well is very light, but may be good for a 4 or 5-bbl. pumper.

The Arkansas Fuel Oil Co. completed its No. 2 on the B. G. Anderson farm, in northwest quarter section No. 2, Fallsbury Township, Licking County, to the Berea, at 850 feet, and it is a 5-bbl. pumper. In Licking County, again, Lot 6, Newton Township, the Ohio Fuel Supply Co. completed its test No. 1 on the S. E. Bell farm to the Berea, and it is dry. In Lot 22, Newton Township, Licking County, the Ohio Fuel Supply Co. completed its test on the B. and O. Miller farm to the Berea, and after shot has a 3-bbl. pumper.

In Section 35, Coal Township, Perry County, the Sunday Creek Coal Co. drilled its No. 143 to the Clinton and to a depth of 3,620 feet, through the sand, and there was no showing of oil or gas. This well is on its own property, formerly known as the Ohio Land & Railway Co. farm.

West Virg'nia

In Washington district, Pleasants County, Riggs Brown and others completed their No. 2 on the Margaret Cohen farm, and it is good for a 5-bbl. pumper. In Grant district, Pleasants County, Sherman Jenkins and others completed their test on the G. S. Hammett farm to the Injun sand at 879 feet, and it is dry and will be abandoned.

Calhoun County

Kingsbury & Dallman completed their test on the L. L. Lynch farm to the Salt sand. This is located on the waters of Mill Stone Creek, Lee district, Calhoun County, and is showing for a 4 or 5-bbl. producer. In the same district and county, McIntosh and others completed their test No. 1 on the B. F. Sturm farm and have a gasser. In Sherman district, Calhoun County, McIntosh & Miller completed their test on the A. Shock farm at 1,980 feet and have a light gasser.

Wetzel County

In Magnolia district, Wetzel County, the Silver Hill Oil Co. completed its test on the Albert Barth farm to the stray sand at 3,092 feet, and it is dry and will be abandoned. The Manufacturers Light & Heat Co. completed its No. 2 on the G. W. Thomas farm, Church district, Wetzel County, at 2,145 feet, and has a light gasser. The Greensboro Gas Co. completed its test on the Thomas Sharp farm, Center district, Wetzel County, at a depth of 3,302 feet and has a very light gas well.

Roane County

Godfrey L. Cabot completed a fair gasser in the Big Injun sand, 2,061 feet, on the O. E. Goff farm, Spencer district, Roane County. His test on this farm is good for 750,000 feet of gas. In Reedy district, Roane County, the Heck Oil Co. completed its No. 9 to the Berea, at 2,619 feet, on the J. W. Conley farm. It is good for 2 bbls. naturally.

In Battelle district, Monongalia County, the Randall Gas Co. completed their test on the John C. Stiles farm to the 50-foot sand at 3,250 feet, and it is a gasser. Decem Development Co. completed its No. 5 on the Campbell heirs farm, Union district, Marshall County, at 1,765 feet and has only a small showing of oil.

In Grant district, Ritchie County, McDonald & Deem completed their No. 3 on the P. R. Swisher farm and have a gasser good for 300,000 feet in the Injun sand at 1,779 feet. In Ritchie County, Grant district, on the waters of Bear Run, the Kennedy Oil Co. completed its No. 11 on the T. L. Thomas estate farm to the Salt sand, and it is showing for about 1 bbl. a day.

C. E. Ross and others completed their test on the M. M. Cochran farm through the Big Injun at a depth of 1,898 feet, and it is dry. This farm is located in Toll Gate district, Ritchie County.

Get Fair Gas Well

On the waters of Mud River, Grant district, Cabell County, the Monickel Gas Co. completed its No. 1 on the L. D. Johnson farm to the Berea sand and has a gasser good for 125,000 feet.

The Owens Bottle Co. completed three gas wells, the first two in Scott district, Boone County, its No. 2 on the Cassingham and others and No. 12 on Pryor and Allen, the depths 1,550 feet and 1,170 feet. The third is on the Joseph Wehrle, Louden district, Kanawha County, and to 1,260 feet.

The Federal Oil & Gas Co. completed its No. 39 Roberts, Pell and Newman, to the Injun sand, and has a small gasser. This is located in Spencer district, Roane County.

Two Producers

The Heck Oil Co. completed its No. 9 on the J. W. Conley farm, Reedy district, Roane County, to the Berea and has a showing for 10 bbls. natural. In Henry district, Clay County, the Virginian Gasoline & Oil Co. completed its No. 1,807 on the Lockhart tract to the Injun sand and it is good for a 10-bbl. producer.

Southeast Ohio

A fair producer was completed by the Melick Oil Co. in its test No. 1 on the

(Continued on Page 208)

WELL NEAR "DOS BOCAS" GUSHER INTERESTS MEXICAN OPERATORS

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mexico, July 22.—Despite high water, Mexican fields in the Tampico-Tuxpam embayment scored one interesting completion a few days ago when Penn Mex Fuel Co. finished its No. 3 Paso Real, in the south fields. The well is rated good for 3,000 bbls. at a depth of 2,215 feet. Another interesting test at this writing is the same company's No. 4, same sector, which is a tremendous gasser at 2,257 feet.

While the above was coming to pass, Mexican Eagle Oil Co. in its No. 19 San Diego, more famous as the "Dos Bocas," the most northerly sector of the so-called south fields, came in an enormous gasser at 1,760 feet, decidedly a shallow depth. The oil at this writing is commencing to follow the gas and just what the well will make is a matter of interesting speculation. No. 19 is located something a trifle less than one kilometer (bearing northeast) from San Diego No. 3, the famous "Dos Bocas" gusher, which, bursting in under a tremendous gas pressure, July 4, 1908, caused one of the most sensational oil fires in the history of petroleum; and, was, finally, only extinguished by a tremendous invasion of hot salt water. To this day this enormous discharge of hot salt water, which finds its way to the neighboring Laguna de Tamiahua, hard by, is a thing to ponder over. The collapsing derrick and machinery of the well, when it broke in, caused a crater to form, which is now a hot water lake of a good many square acres. This eruption—"eruption" is the only word that can describe it properly—of No. 3 apparently spoiled everything else around there. However, Mexican Eagle, biding its time, commenced to drill there again in the past year or so. Several failures resulted, most of them drilling into salt water. Now comes along No. 19, a very shallow test, that looks like a well. The famous No. 3 was 1,837 feet when it made itself notorious. All tests there have been deeper than No. 3. Wherefore, the question: What volume 1,760 feet in No. 19?

North Fields

Pay completions in the north fields were disappointing. Transcontinental Petroleum Co. has 100 bbls. in its No. 213, Lot 2 Cacalilao, finished at 1,942 feet. Over in the Salinas, which is still held in great expectations, but is scoring more dry holes than wells to date, Kern Mex Oil Fields, has 40 bbls. in its No. 4 there at 2,530 feet. In the old Panuco Field, Cia. Pet. Chileno Mexicano is credited with 50 bbls. in its No. 42 Delicias at 1,775 feet. In the Ebano, Mexican Petroleum Co. has 100 bbls. in its No. 70 Midway at 1,650 feet.

Wherefore the record, thus far in July, is 3,290 bbls. of new production from five wells. The failures, north and south, No. 17. These figures exclude Mexican Eagle's San Diego well, as it has not yet proven itself.

The Failures

If the absence of pay completions in the north fields is noticeable, the failures are rather much in evidence. Kern Mex Oil Fields has scored four in the Salinas sector, which holds the proverbial center of the stage here at this time. Its No. 3 Clarin is a gasser at 2,526 feet, a failure from a petrolific standpoint; its Nos. 17, 18 and 19 Salinas are all dry holes at 2,601, 2,675 and 2,605 feet respectively. Mexican Petroleum Co.'s No. 152 La Dicha, in the Ebano sector, drilled into salt water at 2,350 feet. Down in

(Continued on Page 213)

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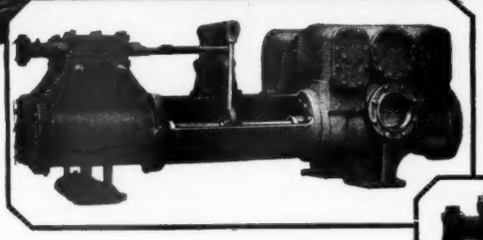

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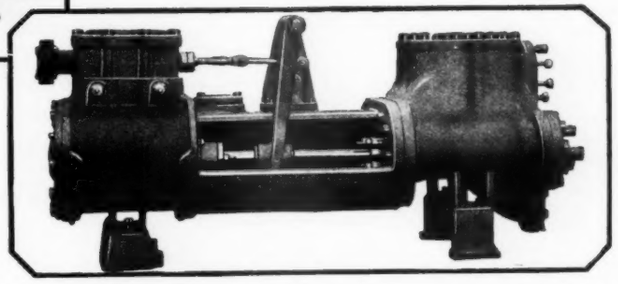

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Illinois Well May Open New Oil Pool

Test Reported as Making 17 Bbls. East Ohio Gas Co. Gets 72-Bbl. Well in Holmes County

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 25.—The bulk of completions reported last week from the Central West territory were in the Central Ohio Field, the total new wells in the whole area consisting of 5 oil wells with an initial production of 184 bbls., 4 dry holes and 10 gas wells, of which number, 15 were from central Ohio.

The finding of a well that pumped 17 bbls., according to reports, near Jacksonville, in Morgan County, Illinois, may lead to a more active drilling campaign. Numerous tests have been drilled in the area, but the bulk of the wells developed into gas producers, which have been found about 5 miles east of the new oil well.

In central Ohio, the East Ohio Gas Co.'s No. 4, on the Miller farm, in Hardy Township, Holmes County, is credited with 72 bbls. initially, the best producer of the week anywhere in the Central West Field.

Illinois

East of Jacksonville, in Jacksonville Township, Morgan County, near the central portion of the State, a well drilled by Timberlake and Higgins on the Mahon lease and about 350 feet east of the old well drilled back in 1911 by Curtis & Leeper, in Section 8-15-9w, struck pay sand and when shot with 80 quarts and after pumping 12 hours, put 17 bbls. in tankage without pumping off, so it looks as though a possible oil pool has been discovered. This is the most favorable oil showing yet found in Morgan County. Jacksonville is soon to enjoy natural gas for fuel as it will be piped from a field east of the city and about 5 miles east of the oil well just brought in. Numerous wells have been drilled over the county, but the only one to show a commercial oil well is the new completion, although several gas wells have been opened up, which will now be utilized for commercial purposes.

Lima Field

Northeast of Lima in Bath Township, Allen County, C. A. Peavy's second well in the northeast corner of the M. Lenny farm, mapped as the C. M. Lenney farm, in the southwest quarter of Section 1, tapped the sand at 1,313 feet. The well after shot, put 20 bbls. in tanks the first 24 hours run. No. 3 will start up at once.

The well of W. F. Kurtz on the Laurence Deckelman farm, Section 18, Jackson Township, Hardin County, not far from the town of Patterson and in what is known as the old Patterson Gas Field, that blew out a string of casing a short time ago is now in producing shape and going as strong as ever.

An official test for volume and rock pressure has not been taken and the owners are looking for a pipeless market for their gas and intend to put down more wells very shortly. The string of tools used at the gas well is being moved to a point 4 miles north of Forest or about 6 miles north of the new gas well and about 2 miles west of the hamlet of Wharton, where the stake is down for a test on the old Dave Cole farm, now owned by Nathan Kear. The test is being financed by 20 farmers living in the vicinity of the Kear farm.

The Dickleman gas well after standing open four days did not show any weakening in volume or pressure, but appeared to be gaining in volume after the casing was set and the well cleaned itself. It is said to be one of the best gas producers drilled in the Patterson Field, which has been producing gas since the No. 1 on the Briggs farm, in the SE, Section 12, Jackson Township, Hardin County, came in on August 1, 1899, which had a pressure of 400 pounds. The Briggs well is about a mile southwest of the town of Forest and less than a mile northwest of the hamlet of Patterson, and a little over 5 miles east of Dunkirk. The test now starting on the Kear farm to the north will be watched with interest as the farmers are anxious to discover oil in their territory as well as natural gas.

Central Ohio

One of the interesting completions in the Central Ohio Field, comes from New Philadelphia, in Tuscarawas County, where Curley and Phillips are reported to have brought in a gas well in the Niagara limestone formation, and said to be the deepest hole yet to be drilled in this county. The well according to advice had a rock pressure of 1,410 pounds. Tuscarawas County is located directly east of Holmes County, where gas and oil are found in the Clinton limestone formation and northeast of Coshocton County, where both large oil and gas wells are found in the Niagara formation.

The Curley-Phillips gasser is on the Mathias farm in Tuscarawas County, and opens something new. Oil City, Pa., parties are reported down below 1,700 feet with a test on the Coventry farm, and leasing is very active. Two wells are reported starting southwest of the gas well on the Mathias farm, and another testing under way to the west. Should these wells prove productive in the Niagara formation, the county will experience a real drilling activity.

In Jefferson Township, Knox County, the Upham Gas Co.'s second test in the northeast corner of the Catherine Logsdon 25 acres, Section 11, proved to be a duster. Guerney and others are starting a second test 1,360 feet from the north line and 50 from the west line of the Jerry Foss 52 acres, Section 6, Clay Township, same county.

In Ashland County, Orange Township, the Logan Gas Co. completed a dry hole in the northwest corner of the J. E. Shopbell 130 acres, Section 5. In Sullivan Township, same company's test in the northeast corner of the R. and F. Langford 166 acres, Lot 99, is a light gas well, while its No. 2 in the southwest corner of the W. J. Havnot 52 acres, Lot 82, is a very fair gas well. Same company made a location for a test 690 feet from the north line and 726 from the west line of the Dolph W. Stentz 100 acres, Lot 97, and drilling a test 500 feet from the south line and 750 from the west line of the O. W. Holmes 99 acres, Lot 42. In the same township, the Ohio Fuel Gas Co. found a dry hole in a test 700 feet from the south line and 1,000 feet from the west line of the Frank Stine 126 acres, Lot 59. Hulse & Kundtz are drilling a test in the southeast corner of the J. M. Slack 99 acres, Lot 42, same township.

In Green Township, Ashland County, the Logan Gas Co. drilled a dry hole in a test 1,000 feet from the south and east lines of the H. & I. C. Charles 170 acres, Section 31, and made a location for a test 900 feet from the south line and 1,000 feet from the east line of the E. A. Beavers 114 acres, Section 32. In Troy Township, same county, the same company made a location for a test 500 feet from the south line and 297 feet from the west line of the R. E. Campbell 30 acres, Section 2, and Hulse & Kundtz set a stake for No. 3 well, 1,050 feet from the north line and 550 feet from the east line of the Ray Arnold 104 acres, same section. In Clear Creek Township, same county, the Kemrow Co. is drilling a test 500 feet from the south line and 330 feet from the west line of the Meiser-Eberhart 65 acres, Section 15, and S. S. Hulse is drilling a test 400 feet north of the highway and 400 feet from the east line of the G. W. Ferguson 20 acres, Section 11.

The Logan Gas Co. drilled in a light gas well at a test in the southeast corner of the George Zacherias 129 acres, Section 1, Liverpool Township, Medina County, and the Empire Gas & Fuel Co. is drilling No. 4 on the Charles R. Puchhas 90 acres, Section 36, Lafayette Township, same county.

Ohio Fuel Gas Co. is drilling a test in the northwest corner of the Paul D. Grady 75 acres, Section 8, Chester Township, Wayne County, in the Wooster Field. The Logan Gas Co. is drilling a test 660 feet from the south line and 590 feet from the east line of the Ohio P. Ferguson 80 acres, Section 16, Congress Township, same county.

In Columbia Township, Lorain County, the Ohio Fuel Gas Co. is drilling a test in the northwest corner of the Louis A. Krueger 79 acres, Lot 15.

East Ohio Gas Co.'s No. 4 in the northwest corner of the J. E. Miller 126 acres, Lot 15, Hardy Township, Holmes County, is credited with an initial production of 72 bbls. from the Clinton lime formation. Same company's No. 5 in the southeast corner of the W. H. Uhl 100 acres, Lot 21, is showing for 5 bbls. from the same formation. In Kilbuck Township, the Kemrow Co.'s second test in the northeast corner of the William Sandles 166 acres, Lot 21, is a gas well better than the average. In Richland Township, the Ohio Fuel Gas Co. has an average gas well at a test in the southeast corner of the J. H. McFarland 140 acres, Lot 16, and the East Ohio Gas Co. staked a location for a test 1,125 feet from the north line and 450 feet from the east line of the J. S. Snyder 43 acres, Lot 14.

In Monroe Township, Coshocton County, the East Ohio Gas Co. is starting No. 3, located 675 feet from the north and east lines of the M. J. Nyhart 41 acres, Section 2.

In the Cleveland Field, Dover Township, Cuyahoga County, Arthur & Simpson's second test on the Kinkler 22 acres, Lot 7, and 350 feet north of the road and 150 feet from the farm's west line, is a nice gas producer, as is their test on the A. M. Witham 10 acres, same lot and 900 feet north of the road and 60 feet from the east line of the lease.

In Olmstead Township, Cuyahoga County, Merkel & Harrison's test in the southeast corner of the W. D. Camp 30 acres, Lot 31, is a nice gasser, while Hulse & Kundtz also have a nice gas

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AMBROSE POOL, OHIO COUNTY, KY., IS SHOWING INCREASED ACTIVITY

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., July 23.—Little stir is noticeable in development work in any portion of Kentucky outside of the Tri-County Field of Hancock, Ohio and Daviess Counties and the Glasgow Field of Barren County, the larger producers being found in what is known as the Ambrose Pool, in Ohio County, with good possibilities for another active development 4 miles to the south and a little east of the Ambrose Pool, in what has been announced as the Sunnydale Pool, in the same county and near Rough River. This new development is destined to get a heavy play and was opened up but a few months ago when Doctor Land and others put down a test on the Wilson lease and since then a few completions have been made, showing the new area to be well worth the ventures being made.

In the eastern part of the state, in District 37, in the Island Creek Field of Owsley County, where McGuire and others, now known as the Big Injun Oil Co., drilled in the big gusher last fall on the J. F. Brewer farm, there is an outlook for active drilling now that a pipe line has been extended to the field by the Cumberland Pipe Line Co. The initial well on the Brewer farm, that flowed several thousand barrels of crude down Island Creek, has been connected to the pipe line and is reported to have declined to 42 bbls. a day during the past week. The second well just brought in on the same farm, is reported good for 100 bbls., and others will be started at once on the Brewer and adjoining farms. Two wells in the 100-bbl. or better class was found during the past few days in the Ambrose Pool, in Ohio County, and several others are in the sand ready for completions that are making good showings. A few dry holes are also reported in the outer edges of this wonder pool.

Tennessee is very quiet at this time as no new completions are reported from Clay, Macon, Jackson, Pickett or Overton Counties where good wells have been uncovered during the past few months.

Week's Work

A summary of the week's work in the Kentucky Field shows 19 completions, 13 producers with an initial of 464 bbls., 6 dry holes and no gas wells. When compared with the previous week there were 15 less completions, 7 less producers, 424 bbls. less production, 6 less dry holes and 2 less gas wells. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Barren	8	7	46	1	0
Ohio	7	3	283	4	0
Allen	1	1	100	0	0
Floyd	1	1	10	0	0
Daviess	1	1	25	0	0
Warren	1	0	0	1	0
Total	19	13	464	6	0
Last week	34	20	888	12	2
Difference	15	7	424	6	2

Tennessee

E. D. Watkins, of Irvine, Ky., is starting a test well near Livingstone, in Overton County, Tennessee, on a block of 1,495 acres near the town of Windle and southwest of Livingstone.

Eastern Kentucky

Only one completion is reported from eastern Kentucky, being the Ivyton Oil & Gas Co.'s No. 1 on the T. J. Webb farm, District 21, of Floyd-Knott Counties, and produced 10 bbls. initial the first 24 hours. This well is in the Ivyton Field, which extends over into Magoffin County, and close to the Floyd County gas belt.

Western Kentucky

Barren and Ohio Counties are the real active areas of the western division at this time and both counties show renewed activity in the way of testing out wildcat areas and hunting extensions to pres-

(Continued on Page 208)

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BEGINNING August 1st, "Black Beauty" Poles, produced in our modern, high-pressure treating plant at Orange, Texas, will bear ---in addition to the usual dating nail---*a Red Top*.

This easy-to-see trade-mark-of-identification will enable purchasers to readily recognize "Black Beauty" Poles wherever they may see them---in a line, on cars in transit, or stacked on a yard.

Hereafter, when you see creosoted poles with *Red Tops*, you will know that they are "Black Beauty" Poles; and that they represent the highest development in the art of wood preserving; and the lowest-cost-per-mile-per-year support for telephone lines, and electric power lines. "Black Beauty" Poles retain their great natural strength through the years---defying wind and ice storms, termites, decay, grass fires, etc., for generations, without need for inspection or attention.

Can Make Immediate Shipment

When in the market for poles, remember that we keep on our yards thousands of "Black Beauty" Poles, of various lengths and sizes, treated to standard A. W. P. A. specifications---ready for immediate shipment. Wire for prices.

TEXAS CREOSOTING COMPANY
Main Office & Plant: Orange, Texas, U. S. A.

MEN KNOWN IN OILDOM

—Witzel Photo.

J. B. Arthur

From a stenographer in the field department to manager of fuel oil and asphalt sales, is, in brief, the record of J. B. Arthur, of the Union Oil Company. Back in April, 1908, Mr. Arthur was taking dictation from Frank F. Hill, the present manager of field operations of the Union Oil Company, but after two years of this he was transferred to San Francisco, Calif., as record clerk in the fuel oil department under C. G. Sheffield. Four years later he was appointed assistant manager in the fuel oil department.

When Mr. Sheffield moved to Los Angeles in 1916, Mr. Arthur remained in charge at San Francisco, until his transfer to Los Angeles in 1918 to take nominal charge of fuel oil sales during Mr. Sheffield's absence in Washington, D. C., as a member of the Fuel Administration Board. Shortly after the conclusion of his service with the War Department, Mr. Sheffield resigned from the Union Oil Company to become manager of fuel oil sales with the Standard Oil Company of New Jersey, and Mr. Arthur was appointed his successor with the title of manager of fuel oil and asphalt sales.

PERSONAL PARAGRAPHS

J. S. Cosden is spending several days in Fort Worth, Tex., on a business trip.

* * *

Roy Welsh, geologist for the New England Oil & Refining Company, of Tulsa, made a recent trip to West Texas fields.

* * *

Blaine Johnston, of the Crown Central Petroleum Company, has returned to Houston, Tex., from a trip through the eastern states.

* * *

G. F. Hess, assistant sales manager, alloy division of the Central Alloy Steel Corporation, of Massillon, Ohio, is visiting the Mid-Continent oil fields.

* * *

Neil J. Lilley, of the Kansas City Structural Steel Company, has been promoted from auditor and treasurer to vice president and manager of sales.

* * *

M. C. French, general superintendent of the Dixie Oil Company at Shreveport, La., has returned to his desk following a short period of vacationing.

* * *

C. C. Michener, president of the San Juan Petroleum Corporation, is in Farmington, N. Mex., from New York City, consulting with the field manager and helping outline future development activities.

Horace Cannon, sales manager of Keen & Woolf Company, of Houston, Tex., was in Shreveport, La., the past week conferring with officials of his company.

* * *

Walter Ritterbusch, head of the Fort Worth, Tex., division of the Phillips Petroleum Company, has returned to his offices following a tour over West Texas.

* * *

Capt J. F. Lucey, Dallas, Tex., and L. E. Doan, Shreveport, La., were recent visitors to West Texas and particularly in the Yates Pool area of Pecos County.

* * *

Hugh Craig, assistant to J. F. Adams, general agent for the Gulf Production Company, in Fort Worth, Tex., is in West Texas on a tour of inspection.

* * *

A. E. Smothers, of the Standard's pipe line department with offices in Los Angeles, Calif., is leaving for a two weeks' vacation to be spent in Yosemite Park.

* * *

Burt S. Shafer, of Dallas, Tex., field manager, tubular sales division, Wheeling Steel Corporation, is making an extended business trip through the eastern fields.

* * *

A. P. Lambert, of W. H. Barber Company, marketer of petroleum products at Tulsa, has been spending a short time with refiners in the Shreveport, La., district.

* * *

J. Hoyt Lewis, chief scout for the Panhandle district of the Marland Oil Company of Texas, is being transferred to San Angelo, Tex., to hold the same position there.

* * *

J. B. Atkins, vice president and general manager of the Shreveport Producing & Refining Corporation, at Shreveport, La., is on a business trip to Ohio and Pennsylvania.

* * *

G. L. Blaxton, traveling representative over North Louisiana for the Oil Well Supply Company with headquarters at Shreveport, La., is off duty for two weeks on a vacation.

* * *

W. W. Trout, of Tulsa, Okla., district sales manager of the Lufkin Foundry & Machine Company, of Lufkin, Tex., was married to Miss Sophie Moseley, of Duncan, Okla., recently.

* * *

J. C. Colligan, general superintendent of the northern division of the Texas Pipe Line Company, located at Dallas, Tex., visited the general offices in Houston, Tex., recently.

* * *

Mr. and Mrs. George D. Brown and children have left Petrolia, Ontario, via New York for Negritos, Peru, where Mr. Brown has a three-year contract with the International Petroleum Company.

* * *

A. A. Williams, of Williams Oil Company, of McComb, Miss., has been visiting North Louisiana refiners, from whom he obtains his supplies of petroleum products marketed in Mississippi.

* * *

Harley Hinton, former Shreveport, La., independent oil operator and at present engaged in the royalty business, has returned to his home at Shreveport, following a trip over West Texas fields.

* * *

Rufus Pilcher, of the Richfield Oil Company's geological staff, will spend the next two weeks in training camp at Monterey, Calif. Rufus won't have to hike, however, unless his ship takes a nose dive.

* * *

F. W. Kirk, general superintendent of the Houston Pipe Line Company, the natural gas subsidiary of the Houston Oil Company, was called from Houston to Fort Worth, Tex., on account of the illness of his wife.

* * *

L. R. Willis, purchasing agent and sales manager of the Mexican Sinclair Petroleum Corporation, at Tampico, Mexico, for the past 10 years, has resigned on account of ill health. He will return to his Texas home. Mr. Willis is succeeded by E. T. Adams, statistician of the Sinclair company at Tampico.

R. J. Dunne, who has been drilling on the Signal Hill Oil Company's test in the Moose Mountain district of Alberta, has resigned to take charge of the Simpson Oil Company's test at Simpson, Sask.

* * *

Paul Reid, of Houston, Tex., representing the Texas Steel Company, has returned to his office after a swing through the Coastal pools. He was formerly assistant auditor of the Houston Oil Company.

* * *

William Kimble, southern California statistician of the Associated Oil Company, has returned to Los Angeles after spending the past 30 days on a pleasure trip which carried him back to the old homestead in Virginia.

* * *

Dr. R. C. Moore, state geologist of Kansas and head of the school of geology at the University of Kansas, is in Fort Worth, Tex., and will be there several days. He is making a tour of various fields in the Mid-Continent.

* * *

J. E. Eaton, Los Angeles consulting geologist and petroleum engineer, will have a hot time during the next month as his geological work is taking him up through the San Joaquin Valley, a rather warm place during the summer months.

* * *

J. L. Dowling, formerly vice president and manager of the Texas Pipe Line Company, a subsidiary of the Texas Corporation, who resigned some time ago, has opened an office in the Petroleum Building in Houston, Tex., to engage in business for himself.

* * *

On Saturday morning, July 2, the marriage took place at Petrolia, Ontario, of Mrs. Claire Fairbank, widow of the late Maj. C. O. Fairbank, to Leo Ranney of New York, president of the Standard Development Company. Mrs. Ranney belongs to a family extensively associated with the Petrolia oil development. Mr. and Mrs. Ranney will spend the summer at Morro Bay, Calif.

* * *

A large party of eastern capitalists reached Cheyenne, Wyo., July 22, where they were met by Paul S. Ache, prominent oil operator of the Rocky Mountain region. Under Mr. Ache's direction the wise men of the East will travel through the oil fields of central Wyoming, then through Yellowstone Park and then to Cheyenne to take in the frontier days' celebration.

* * *

C. E. Morris, of the scouting department of the Gulf Refining Company at Shreveport, La., has resigned and has taken over his new position as field superintendent of the recently organized Greenwood Producing Company. He has been succeeded at the Gulf Refining Company by R. C. Edwards, who has served with the Phillips Petroleum Company, Sinclair Oil & Gas Company, and other producing companies in this district for several years. Mr. Morris has been with the Gulf company since 1904.

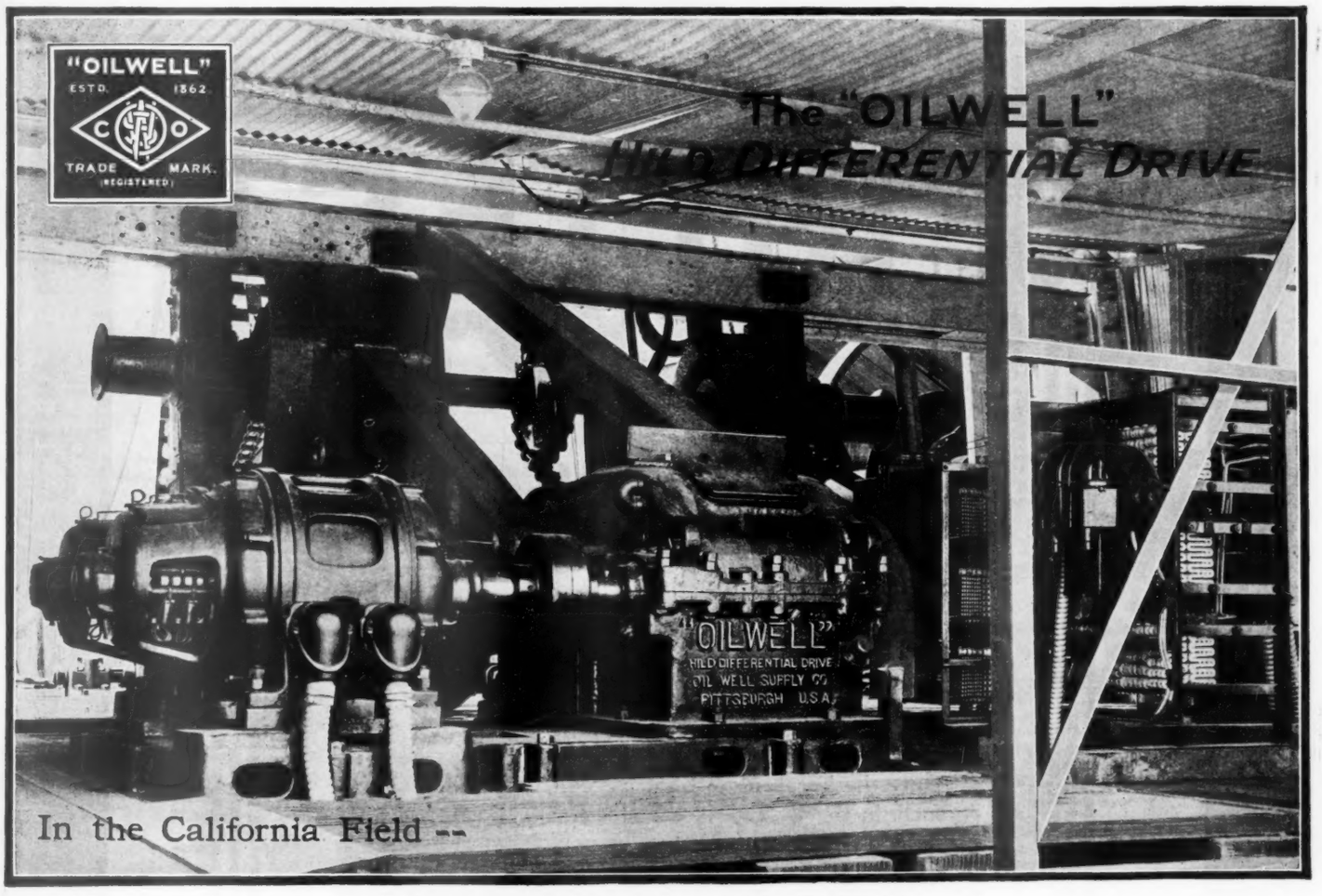
* * *

C. B. Hulbert has been made president and manager of the Consolidada "Oilwell," S. A., a subsidiary of the Oil Well Supply Company, in Mexico. Vice President A. F. Millan, resigned. The headquarters of the Consolidada is at Tampico. Mr. Hulbert was formerly manager of the Tampico Foundry, Machine & Supply Company, a subsidiary of the Consolidada. At the time of the transfer at Tampico there was present H. B. Boyd, assistant to S. Clarke Reed, vice president in charge of stores, headquarters in Pittsburgh, Pa., and H. A. Russell, credit manager of the Shreveport, La., district.

* * *

The following changes have been effected in the personnel of the United States Bureau of Mines Experimental Station at Bartlesville, Okla.: Harry C. Fowler, petroleum engineer in charge of safety work has been transferred to Washington, D. C., and his future work will consist of a study of oil production problems in the Appalachian Field. C. J. Wakenhut, associate petroleum engineer, has been transferred from Dallas, Tex., to Bartlesville, and has charge of safety work. I. N. Beall, associate refinery engineer in charge of oil shale experimental work at Boulder, Colo., resigned to accept a position as research engineer with the Arab Oil Company. Eastland, Tex.

AUTOMATIC FEED *and* RETRIEVE HAVE BEEN THOROUGHLY PROVEN



PIONEERED AND DEVELOPED BY "OILWELL"

Drilling operations in California and Texas during the past three years have definitely proven the **"OILWELL"** Hild Differential Drive.

The original outfit is still in use in California, having drilled over 50,000 feet of hole, and succeeding outfits are all proving the numerous advantages of Automatic Feed and Retrieve for rotary drilling.

With this device the bit is automatically fed and automatically retrieved or lifted upon suddenly encountering hard formations.

Additional advantages of **"OILWELL"** Hild Differential Drive are:

1. Faster drilling.
2. Cheaper drilling—less wear and tear on the drilling equipment, resulting in lower maintenance costs.
3. Straighter hole.
4. Deeper drilling range because of better protection for the drilling equipment.
5. Uniform feed regulation for coring.

Send for special Bulletin descriptive of this device, or inquire at any of our 100 Branches.

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

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Only the kerosene test can reveal those minute defects in the texture of the steel,—only in Kerotests do you get the unfailing valve performance assured by this rigid test before it is shipped to the oil fields.

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Natural Gas Developments

Louisiana-Arkansas Gas Fields Yielded Largely in Half Year

SHREVEPORT, La., July 23.—Initial gas production of wells completed in the North Louisiana-Arkansas division the first six months of the year totaled 1,330,981,000 feet daily from 101 wells. Of this production far more than half, or 840,086,000 feet, was in the Monroe district of Louisiana and Union County, Arkansas.

The following table shows the new gas production added during the first half of the year:

North Louisiana

Parish—	No. Wells	Daily Initial Prod. (ft.)
Bossier	7	138,759,000
Caddo	17	227,500,000
DeSoto	2	6,000,000
LaSalle	1	1,000,000
Monroe district	35	439,586,000
Richland	6	87,636,000
Sabine	1	1,000,000
Webster	4	21,000,000
Total	73	922,481,000

Arkansas

County—	No. Wells	Daily Initial Prod. (ft.)
Ouachita	2	8,000,000
Union	26	400,500,000
Total	28	408,500,000
Total both states	101	1,330,981,000

BUILDING MODEL HOME TO SHOW USES OF GAS

FORT WORTH, Tex., July 25.—A model home, being built along the requirements of model homes recommended by the American Gas Association and other associations, is being built in Fort Worth and furnished with latest gas appliances. The Fort Worth Gas Co. is interested in the construction of the home.

One example of the construction is that brass pipes are being used throughout in plumbing the home. Another is that copper is being used where metal is required. It is being built by W. C. Guthrie of Fort Worth.

Gas outlets will be built in every room of the house and outlets have been made for gas refrigeration. The heating plant will be a steam plant with automatic control and the boiler fired by gas. By the side of the heating plant a gas hot water heater will be installed. It can be operated as a single unit or in conjunction with the heating plant. The gas outlets in every room are for the connection of any other gas appliances the owner may desire.

In the basement, a gas incinerator will be installed. This installation will eliminate the garbage problem as the gas fueled incinerator will burn anything from cans to glass.

When the home is furnished it will be one pointed out by gas men showing the improvements in gas appliances. Some of the appliances are new to Fort Worth homes and a campaign will be made to point out the conveniences of the new appliances to home owners.

MOVE TO BROWNWOOD

BROWNWOOD, Tex., July 23.—State headquarters of Morgan Utility Corp., an Arkansas concern, will be moved here, according to the statement of M. B. Morgan, president of the company. L. F. Troxel, president of the recently formed Natural Gas & Fuel Co., will be in charge here. He has formerly had his office in Breckenridge, Tex.

Morgan Utilities will apply for a Texas charter, it was said. Morgan last week completed the purchase of the Industrial Gas Co. from Judge E. J. Miller and J. F. Patterson.

WORK STARTED ON LINE TO SAN ANGELO, TEXAS

DALLAS, Tex., July 25.—Construction work has been started on a 72-mile main line gas system from Coleman County to San Angelo and Winters, Tex., by the Lone Star Gas Co. of Dallas. The line starts with 10-inch pipe from wells north and a little east of Valera in Coleman County. The 10-inch line runs to a point northeast of Ballinger, where the line is tapped by a 12-mile 4-inch line running north to Winters. The 10-inch line will be built on south to San Angelo.

The entire line is to be welded and the several towns along the right of way expect to be supplied with gas from it. The capacity of the line is estimated to be about 10,000 000 feet of gas daily. Well pressure will be used at present to push the gas through the lines. It is expected that the system will be connected in the future to the Lone Star company's recently purchased gas system in West Texas. The latter system was bought from The Texas Company several weeks ago.

Construction work on the extension of the Lone Star company's southern system is nearing completion. The system is being extended south from Waco to Temple with a 16-inch line and 8-inch pipe is being used to extend the line from Mexia to Marlin.

LINE OVER HALF FINISHED

SAN ANTONIO, Tex., July 23.—The Rio Grande Valley Gas Co.'s line from the Mirando Field to the lower Rio Grande Valley is more than half completed, according to John W. Gaines, president of the company.

All of the main trunk line between San Benito and Brownsville and about half of the remaining trunk line is laid.

The distributing systems have been completed in both McAllen and Brownsville and work is progressing on the building of the distributing systems in San Benito, Edinburg, La Feria and Pharr.

Mercedes is the latest city to vote a franchise to the company. It is identical with the franchises granted in all of the other cities of the valley. Harlingen is the only city which has not granted a franchise yet.

MORE TOWNS GET GAS

AMARILLO, Tex., July 25.—Charters to supply four more towns in the South Plains area were granted the West Texas Gas Co., Amarillo, recently. The towns are Lorenzo, Ralls and Crosbyton in Crosby County and Idalou in Lubbock County. The West Texas company is building a trunk system, 217 miles long, from northeastern Potter County into the South Plains. A tap will be built from the main line at Lubbock to run east to supply the four towns. Approximately 40 miles of pipe will be required to extend the line to Crosbyton.

HAVING GAS BOOM

OIL CITY, Pa., July 15.—Truittsburg, Clarion County, is having one of the largest gas booms around this section. Wallace Houpt & Co. drilled in the first well which made 30,000,000 cubic feet. Apollo Gas Co. drilled the second well within 28 feet and got over 20,000,000 cubic feet. Peoples Natural Gas Co. drilled the third well of triangle 28 feet from first well 20 feet second and expects to reach the sand soon.

UTILIZATION OF RESIDUE GAS OF GASOLINE PLANTS INCREASES

By Ross M. Stuntz

Superintendent of Production, Natural Gas Division, Empire Companies.

The increasing use of residue gas by natural gas pipe line companies in the Mid-Continent territory over the past six or seven years, has marked one of the greatest steps toward the conservation of this most efficient fuel—natural gas—ever adopted by the industry, as it has diverted to domestic and industrial use billions upon billions of cubic feet of this residue or "casinghead" gas which otherwise would be wasted into the atmosphere in practically every instance. This is true in Oklahoma, there being no industrial consumers of sufficient capacity near by to use it.

Perplexing Problems

On the other hand the use of residue has injected perplexing problems effecting every department of production, compression, transportation, distribution and utilization. Viewed from an operating standpoint, it has brought about more complications than we have ever experienced in handling gas from any other source of supply.

Watch Oxygen Content

It originates as "casinghead" gas from the various oil fields. This gas is separated from the oil by means of separators or traps, which are connected to gathering lines extending to vacuum plants which in turn deliver the gas to casinghead gasoline plants. The gathering lines generally being under vacuum there is always the possibility of the injection of air. The oxygen in this gas varies from zero in quantity to as much as 1½ per cent under ordinary conditions. In order to secure residue of a uniform quality, we have found it necessary to maintain constant supervision over the various points of delivery to carefully watch the air content.

Oxidation Problem

One of the most difficult operating problems results from this small oxygen content. The result of this is an accumulation of a very finely pulverized dust and is the cause of difficulty in operating our compressor equipment.

To eradicate this and increase the efficiency of compressor operation and the other attendant difficulties we have designed and installed at a number of our compressor stations and town borders, an oil separator, the purpose of which is to remove all foreign substance. The oil separation method has been found the most practical in the Mid-Continent and Southwestern territory. In our own experience we have found that wherever we have made these installations they eliminate practically all compressor and distribution operating troubles.

Freezing Problem

Another trouble we have experienced, due to the handling of residue gas and its high B.t.u. content has been a more pronounced tendency toward clogging the main line systems. This takes place at temperatures somewhat higher than in lines under the same pressure carrying ordinary dry natural gas. It is seldom that we have a ground temperature in this territory under 35 degrees, yet we frequently have trouble from clogging in pipe lines carrying residue, particularly where it is under high pressue.

To remedy this condition, as well as the dust problem, we have made and installed a large number of pipe line drips,

(Continued on Page 204)

CHICAGO CONCERN BUYS PAMPA GAS CO. OF TEXAS

PAMPA, Tex., July 25.—Sale of the Pampa Gas Co., which furnishes gas to Pampa, White Deer and Panhandle, has been made to Peabody, Houghteling & Co., of Chicago. Announcement was made by W. L. Woodward, president and general manager of the Pampa Gas Co. The sale was effective July 16, but is retroactive as of June 1. The buyers are public utility engineers who control the Federal Public Utilities Co., which operates the gas distributing systems in Wewumka and Henryetta, Okla. Sale price was not announced. The buyers also operate a distributing system in Claude, Tex., in the Panhandle area.

It was announced there would be no change in the personnel of the organization or in the present policy of the company. The new plant will be operated under the name of the Southwestern Division of the Federal Public Utilities Co., and Mr. Woodward will be manager of the southwest division. J. A. Robertson, Galveston, Tex., who was co-owner of the Pampa Gas Co., with Mr. Woodward, will retire from Pampa gas activities. F. A. Theulin, general counsellor for the buyers, was in Pampa last week closing the sale.

EXPENDING $700,000 TO EXPAND GAS SYSTEM

WICHITA FALLS, Tex., July 25.—Approximately $700,000 is being expended by the Northern Texas Utilities Co., Wichita Falls, for the construction of laterals and distributing stations to supply towns near the gas company's main line from the Panhandle to Wichita Falls.

A 4-inch lateral is being extended from Memphis, in Hall County to Clarendon in Donley County. The line will feed the distributing systems in Hedley, Lelia Lake and Clarendon. The other extension is an 8-inch line from a point near Iowa Park in Wichita County and run south to Olney in Young County. It will supply Holliday, Archer City and Olney and fuel for drilling wells in pools near the line's right of way.

Distributing companies will be operated by the trunk line company. It is expected the construction work will be completed by September 15. The company's main line is a 16-inch carrier starting in the gas fields of Wheeler County.

GULF PUBLIC SERVICE BUYS GAS PROPERTIES

SHREVEPORT, La., July 25.—Purchase of all gas distribution holdings as well as all other public utility properties owned by Tooke & Reynolds in Natchitoches and Red River Parishes has been announced by the Gulf Public Service Co.

The deal involves a consideration of more than $600,000 and includes the Natchitoches Gas Co., comprising 30 miles of gas line from the Bull Bayou Field; the Natchitoches ice plant and distributing facilities; the Coushatta gas, electric and ice properties and considerable acres of gas leases; the gas system at Campti, and the telephone and electric system at Dubach.

GAS FOR EAST TEXAS

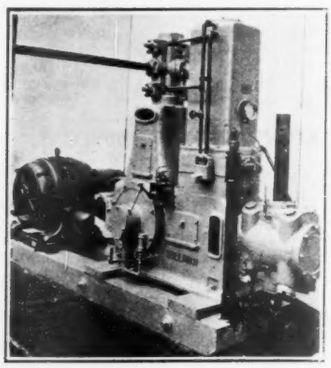
SHREVEPORT, La., July 25.—The Dixie Gas & Utilities Co. has been granted franchises for the distribution of natural gas in Carthage and Nacogdoches, Tex. The gas will be supplied from the line to be laid by the Dixie Pipe Line Co. from the Waskom Field to Houston and Port Arthur, Tex.

EQUIPMENT AND SUPPLIES

AIR LIFT COMPRESSOR EMBODIES NEW FEATURE

A new gas and air lift compressor recently placed on the market by the Sullivan Machinery Co. of Chicago is being marketed in the Mid-Continent area by the Continental Supply Co. The new compressor is of a distinctive design and type. It is an "angle compound" machine. The distinguishing feature is that the low pressure cylinder and frame are horizontal, while the high pressure frame and cylinder are placed at an angle of 90 degrees, or vertically. This enables the low pressure and high pressure members, such as the pistons, piston rods, crossheads and connecting rods, to be exactly balanced, so that the machine runs practically without vibration. The two connecting rods seat side by side on the same crank pin, so that the drive shaft is very short and the machine correspondingly small in area.

These compressors are built in a range



of capacities and pressures, nicely suited to the needs of the oil field. The machine illustrated has a displacement capacity of 14,000 cubic feet of gas per hour, and is good for 750 pounds pressure. It is only 6 feet 10 inches long, 3 feet 10 inches wide and 6 feet 8 inches high, and may be transported on a single skid or set up on a couple of timbers for short belt drive from a motor or gas or oil engine.

Angle compressors lend themselves readily to direct connection to an electric motor or oil or gas unit if desired. They are quite flexible as to capacity, and it is a frequent practice to connect two of these units together as a twin with a single motor on the driving shaft between. Each of the two stage compressors can be operated by itself at full efficiency whenever the demand calls for less than half the total capacity.

FISK'S NEW POST

Frederick M. Fisk, on July 1, became manager of the Pacific Coast office of McIntosh & Seymour Corp., 815 Sheldon Building, San Francisco, Calif. Mr. Fisk is well known in his territory through former connection with various important engineering enterprises and has had extensive Diesel engine experience in the McIntosh & Seymour plant in Auburn, N. Y., and outside. Mr. Fisk is therefore thoroughly familiar with details and performance of McIntosh & Seymour units and is exceptionally well qualified to cooperate in both marine and stationary power plant work.

MOVES TO McCAMEY

R. R. Rogers, a former Oil City, Pa., boy, now located at McCamey, Tex., with the Joseph Reid Gas Engine Co., is spending a few days at the Reid company's Oil City plant.

BESSEMER'S LATEST CATALOG

The Bessemer Gas Engine Co. of Grove City, Pa., has just published a new catalog featuring the Bessemer four cycle compressor.

This compressor, known as Type FC, has been in service for several years and is said to have proved a highly efficient, economical unit for natural gasoline plants, booster stations and for flowing wells at high pressures.

NEW FISHING TOOL CONNECTION TESTED

The Baker offset fishing tool connection, an entirely new development by Baker Casing Shoe Co., Huntington Park, Calif., performs an operation heretofore difficult of accomplishment if possible of accomplishment at all, with conventional tools.

The operation of this tool is on the hydraulic principle, which throws the offset member off center, and during all stages of its operation maintains perfect and complete circulation. The offset connection attaches to the top of the fishing tool, being fitted with a tool joint pin on the bottom, and a tool joint box on the top. The offset connection with fishing tool attached is lowered in the well the same as any other fishing tools and when a predetermined depth is reached—where the top of the fish should be—should it not make a connection, the circulation pump is started, which automatically causes the fishing tools to be thrown off center. This will enable locating the top of the fish and securing the necessary attachment thereto.

After attachment to the fish is secured, the procedure is exactly the same as in usual practice, and is left entirely to the judgment and experience of the operator. The maximum radius provided is on a ratio of 3½ inches to the foot. For every foot in length of the fishing tool, it will increase the sweep 3½ inches. For example, an overshot bowl on the bottom of a 30-foot overshot will be 105 inches from the center, or would take in the wall of a cave 210 inches in diameter. A 40-foot long overshot would reach the wall of a cavity 280 inches in diameter. Complete specifications and data will be mailed to any reader on application to the manufacturer.

Ideco Steel Derrick Stands Heavy Strain At South Bend, Tex.

The ability of an "Ideco" reinforced structural steel drilling derrick to hold firm under an unusual strain was demonstrated in a recent drilling operation at South Bend, Tex.

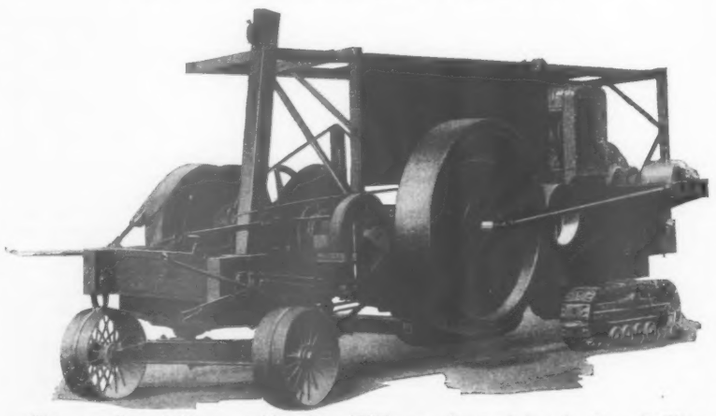
This derrick, manufactured by the International Derrick & Equipment Co. of Columbus, Ohio, and Torrance, Calif., is known as "Catalog No. 322, reinforced

drilling derrick," and is equipped with a Kelly platform and crow's nest.

In drilling this 600-bbl. well, Ike Parker, driller for Shaw and Rathke, drilling contractors, set 3,850 feet of 6⅝-inch 24-pound casing under the derrick, and drilled to a depth of 3,939 feet. The casing had been set on bottom, and when it had been picked up 9 feet, froze.

In trying to pull the frozen casing loose, Parker put on all the pull that could possibly be brought to bear, using nine lines and an O. W. S. twin-cylinder engine with 150 pounds steam.

NEW MACHINE DRILLS TO 3,000 FEET



The new Star drilling machine No. 47ST, manufactured by the Star Drilling Machine Co., Akron, Ohio, was designed for new drilling to 3,000 feet, for drilling in wells carried to the sand by rotary, for deep cleaning out and heavy lease maintenance work. It is powered by a 4-cylinder 90-horsepower gasoline motor that runs equally well on gasoline or natural gas. The power unit is mounted on the rear of the machine away from the drilling, a factor in safety. A big advantage is that the driller can see all his reels without obstruction.

The 47ST has chain-driven bull and calf reels and is equipped with a heavy duty reverse clutch and an underslung walking beam. Like many other Star models, the 47ST moves under its own power and can travel over good or bad ground with no difficulty.

FOR WELDING RANGE BOILERS

Recent announcements of new equipment placed on the market by the Lincoln Electric Co., of Cleveland, Ohio, include description of automatic carbon arc welders for welding range boilers.

The automatic carbon arc welder for range boilers was brought out to meet the particular needs of the producers of range boilers on account of the sharply competitive conditions in this field. While large numbers of range boilers are produced, the price the manufacturer gets for the boilers is very close to his actual cost. Use of high-speed automatic machinery under such conditions by the dominating factors in the industry usually solves the problem.

A SERIOUS ACCIDENT

Roy E. Spear, sales manager of the Interstate Oil Co., who recently was in an automobile accident with Earl Van Buskirk, Missouri and Kansas representative of the Butler Manufacturing Co., of Kansas City and Minneapolis, had to return to the hospital for another operation on his knee. Mr. Spear will be confined in the hospital for at least another month. Mr. Van Buskirk has fully recovered and is back on the job though he wears on his face possible permanent marks of the accident.

CATALOG 104

Useful information to oil men, as well as a complete listing of oil equipment is given in Catalog No. 104, just issued by the Butler Manufacturing Co., Kansas City, Mo., and Minneapolis, Minn.

A good size picture showing how to erect horizontal storage tanks is in this catalog. Capacity of cylindrical tanks, explanation and description of the U. S. standard gauges and other information are given.

TRADE LITERATURE RECEIVED

From Hutchinson Engineering Works, Chicago, a folder on floodlights, new forge blowers, and pumps for handling fuel oil on drilling operations powered with internal combustion engines.

From Novo Engine Co., Lansing, Mich., a folder on the new Novo line of "Flud Oild" engines.

From Kennedye-Plumb Corp., St. Louis, Mo., a circular on the K-P straight-hole rotary drilling bit. The bit embraces many new and unique features.

From Mine Safety Appliance Co., Pittsburgh, Pa., a new catalog giving complete details of everything necessary for mining and industrial safety.

From Max B. Miller & Co., Inc., New York City, a booklet regarding Samplitt, a mechanical device by which uniform and accurate samples of liquids flowing through a pipe line are automatically obtained.

From Rhode Island Fittings Co., Providence, R. I., a leaflet on a line of extra heavy flange unions.

From Allis-Chalmers Manufacturing Co., Milwaukee, Wis., two catalogs describing "Texrope" driven oil well pumping units, and "Texrope" driven belt tightening oil well countershaft.

For twenty years the Moore Tubular Steel Derrick has performed in a creditable—in fact a notable—manner. It is the oldest steel derrick in the field and has won the approval of oil men everywhere. Ease of erection and convenience in handling, strength, and long life are features of the Moore derrick which merit its position of leadership.

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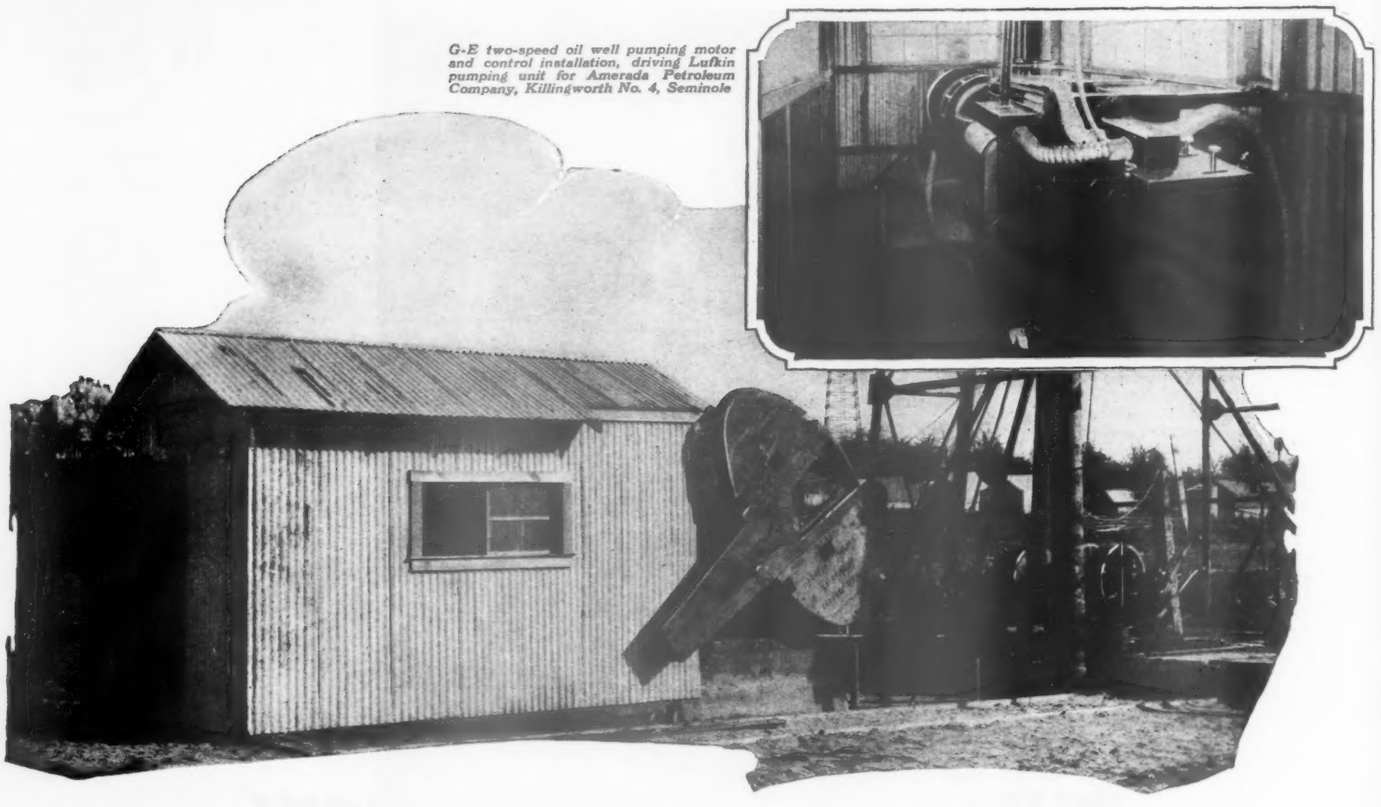

G-E two-speed oil well pumping motor and control installation, driving Lufkin pumping unit for Amerada Petroleum Company, Killingworth No. 4, Seminole

for Non-stop Pumping

Wherever electric power is available, operators of pumping wells can profit by the obvious advantages of G-E Motorized Power. Comparatively light in weight, G-E pumping motors are easy to transport and to install. Entirely free from mechanical complications common to other types of drive, they prevent practically all shutdown trouble, delivering by actual record an increased production as high as 15 per cent.

G-E Type OMT two-speed motors are the recognized standard for driving Lufkin pumping units. More than three hundred and fifty of these motors are now in use on this equipment.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G-E readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power factor improvement, switching equipment, etc.

G-E oil field specialists and G-E service at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

Apply the proper G-E Motor and the correct G-E Controller to a specific task, following the recommendations of G-E specialists in electric drive, and you have G-E Motorized Power.

Motorized Power
—fitted to every need

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

Big Gain in Motor Car Registration

Cars in Service July 1, 1,164,000 More Than on Same Day Last Year, a 6 Per Cent Gain. Few States Show Decrease

By K. W. Stillman*

Total vehicles registered in the United States during the first six months of 1927 amounted to 20,744,197 cars, trucks and buses and 97,539 motorcycles.

Passenger car registrations were 18,133,440, truck and bus registrations combined totaled 2,610,757, while in the relatively few states in which bus registrations are kept separate from other types of vehicles there were 13,006 registered.

Registrations of cars, trucks and buses so far this year were 1,164,329 greater than for the similar period of 1926, which represents a gain of 6.0 per cent. According to these figures and census estimates for July 1, 1927, there are 5.7 persons per motor vehicle in the country at this time.

As has been the case in the past few years, July 1 registrations are less than those for the preceding end-of-the-year period. As has been explained before, this undoubtedly is caused by two factors. The first and more important one is that, with the increasing number of cars being eliminated from service each year, it takes a longer time for new car sales during the following year to replace them in registrations.

During 1926, according to estimates made in the last statistical issue of Automotive Industries, there were approximately 2,143,000 motor vehicles removed from service. All of these vehicles appeared in the end of the year registration data for 1926 but none of them were registered during this year. Thus it is evident that at least this many new vehicles must have been sold and registered during the first six months of 1927 if the midyear registrations were to equal or exceed those of the preceding end of the year.

A few years ago it was possible to do this so that each registration tabulation, whether taken in the middle or at the end of the year, showed substantial increases over the preceeding one. Within the last year or two, however, the condition has changed and it now takes considerably more than six months' sales of new cars to overcome the effects of the very considerable amount of elimination which have taken place during the previous year.

The second factor is one which has always operated to influence midyear registration data and is no more effective now than in past years. This is the very great amount of estimations which must be done in tabulating midyear registrations. This period is in the midst of new car registrations activities and complete and accurate returns are available at this time from only relatively few states.

This second factor makes it unwise to depend too much upon midyear registration data. Many states are unable to supply accurate information at this time for more than the first four months of the year, but estimate the rest, and in nearly every case the books have not been closed and completely audited as early as the information is required for this presentation.

In general, however, the figures presented here may be considered fairly reliable as expressing the general trends of the industry.

This year, for the first time, a number of states show fewer motor vehicles registered than one year ago. At first glance this appears rather improbable but it is doubtless due to the same causes as were mentioned before. The number of vehicles being scrapped each year is constantly increasing and the amount of new sales required to compensate for this loss in vehicles in operation is constantly growing greater. This fact, coupled with the incompleteness of information which may be of greater influence in particular states this year than it was last year, seems to be the explanation of the unique trend expressed for the first time in this tabulation. There is little doubt that all of these states showing a loss over last July will register substantial increases next December over the 1926 total figures.

There have been few important changes in the relative position of the various states. Because Pennsylvania showed a slight loss in registrations over those of a year ago, it has been reduced one place in the order of rank, exchanging third place with Ohio. This year Michigan has registered over 1,000,000 cars and trucks, thus making six states in this group, one more than a year ago. Rhode Island has advanced to the 100,000 class, leaving but 10 states in which fewer than this number of vehicles are registered.

Total gains were considerably less than those of a year ago, which might have been expected in consideration of the great increase of eliminations and the relatively stationary production and sales figures for the past two years.

In 10 states a loss of registrations is indicated but the total loss is only 150,000 and no small part of that is probably due to incomplete data. Total gains for the year were about 1,315,000 as compared with 1,991,000 for 1926. Percentage gains this year were 6.0 per cent while in 1926 they were 11.3.

Unless our production and domestic sales activities should increase in future years at a much more rapid rate than they have in the past two or three years, this trend of decreasing registration gains is likely to continue and it may not be so very long before nearly all the domestic sales will be required for replacement purposes, except for that portion sold to an increasing population increment.

*In Automotive Industries, July 16. Published by permission.

MOTOR VEHICLE REGISTRATION STATISTICS, JULY 1, 1927

	Total Cars, Trucks and Buses	Passenger Cars	Trucks and Buses	Buses (Where Segregated)	Motor-cycles	Registration Fees	Gasoline Taxes
Alabama	224,843	195,805	29,038	194	300	$2,364,026	$3,059,929
Arizona	70,000	60,000	10,000	.....	250	408,000	515,000
Arkansas	175,709	149,387	26,322	.....	175	3,200,000	4,500,000
California	1,585,568	1,386,761	198,807	.....	8,162	7,853,944	8,600,000
Colorado	234,794	216,031	18,763	.....	922	1,436,773	1,114,615
Connecticut	260,100	219,083	41,017	599	3,076	6,174,232	741,786
Delaware	42,505	34,705	7,800	200	261	776,639	217,405
Dist. of Columbia	129,991	114,671	15,320	300	1,149	142,685	1,057,850
Florida	374,757	316,284	58,473	.....	1,050	5,400,000	3,020,000
Georgia	257,760	223,741	34,019	86	730	3,476,424	2,966,714
Idaho	86,100	78,000	8,100	.....	382	1,287,000	549,214
Illinois	1,303,326	1,136,208	167,118	.....	4,607	13,916,764	None
Indiana	744,871	641,079	103,792	802	2,689	5,027,537	4,386,663
Iowa	656,903	606,638	50,265	.. ..	1,507	9,801,040	2,189,493
Kansas	454,685	406,605	48,080	.....	847	4,617,560	2,071,204
Kentucky	250,989	224,361	26,628	.....	542	3,998,362	3,800,000
Louisiana	210,000	175,000	35,000	.....	450	3,953,000	840,000
Maine	129,046	109,171	19,875	.....	950	2,000,000	825,000
Maryland	245,070	234,835	10,235	400	1,981	2,548,542	2,153,199
Massachusetts	634,661	555,183	79,478	1,271	5,362	10,871,454	None
Michigan	1,040,680	900,536	140,144	.....	2,806	15,379,653	5,024,303
Minnesota	605,525	530,888	74,637	339	2,118	9,684,992	2,600,000
Mississippi	198,500	179,000	19,500	.....	50	1,610,000	1,685,000
Missouri	620,000	545,000	75,000	.....	1,450	7,300,000	3,000,000
Montana	99,460	85,087	14,373	.....	118	1,020,380	427,000
Nebraska	286,850	263,953	22,897	112	523	2,924,006	1,259,000
Nevada	21,896	17,337	4,559	.....	71	214,000	187,000
N. Hampshire	86,618	76,200	10,418	.....	1,035	1,652,000	286,000
New Jersey	629,339	520,499	108,840	4,051	5,504	11,582,557	None
New Mexico	51,044	49,483	1,561	.....	172	486,053	529,636
New York	1,734,600	1,406,245	328,355	.....	14,290	29,000,000	None
N. Carolina	441,650	399,000	42,650	650	1,100	6,054,820	8,120,604
N. Dakota	146,383	133,973	11,410	.....	228	1,413,894	305,000
Ohio	1,436,939	1,276,939	160,000	.....	7,000	9,303,500	7,842,500
Oklahoma	423,775	384,500	39,275	.....	900	5,600,000	2,580,000
Oregon	208,478	192,302	16,176	.....	1,603	5,927,727	1,621,975
Pennsylvania	1,264,366	1,094,653	169,713	.....	11,210	22,925,010	6,000,000
Rhode Island	104,126	86,228	17,898	300	1,082	1,804,790	253,000
S. Carolina	174,523	157,087	17,436	145	297	1,970,986	1,825,561
S. Dakota	165,000	152,000	13,000	.. ..	300	2,600,000	1,000,000
Tennessee	269,948	245,401	24,547	.....	685	3,300,000	1,740,000
Texas	985,406	885,110	100,296	2,067	2,398	14,650,000	4,920,695
Utah	84,450	72,927	11,523	.....	422	603,771	825,000
Vermont	70,172	64,876	5,276	87	450	1,884,280	200,000
Virginia	299,924	264,052	35,872	592	847	4,692,959	3,004,159
Washington	348,628	298,639	49,989	.....	2,005	5,684,037	1,631,226
W. Virginia	199,459	176,797	22,662	481	1,043	3,570,937	1,157,000
Wisconsin	629,582	550,358	79,224	420	2,324	8,600,000	2,350,000
Wyoming	46,198	40,822	5,376	.....	106	478,330	257,211
Total	20,744,197	18,133,440	2,610,757	13,006	97,537	$271,171,724	$103,030,982

CARS AND TRUCKS IN UNITED STATES
July 1, 1927

New York	1,734,600
California	1,585,568
Ohio	1,436,939
Illinois	1,303,326
Pennsylvania	1,264,366
Michigan	1,040,680
Texas	985,406
Indiana	744,871
Iowa	656,903
Massachusetts	634,661
Wisconsin	629,582
New Jersey	629,339
Missouri	620,000
Minnesota	605,525
Kansas	454,685
North Carolina	441,650
Oklahoma	423,775
Florida	374,757
Washington	348,628
Virginia	299,924
Nebraska	286,850
Tennessee	269,948
Connecticut	260,100
Georgia	257,760
Kentucky	250,989
Maryland	245,070
Colorado	234,794
Alabama	224,843
Louisiana	210,000
Oregon	208,478
West Virginia	199,459
Mississippi	198,500
Arkansas	175,709
South Carolina	174,523
South Dakota	165,000
North Dakota	146,383
Dis.rict of Columbia	129,991
Maine	129,046
Rhode Island	104,126
Montana	99,460
New Hampshire	86,618
Idaho	86,100
Utah	84,450
Vermont	70,172
Arizona	70,000
New Mexico	51,044
Wyoming	46,198
Delaware	42,505
Nevada	21,896
United States	20,744,197

PERSONS PER MOTOR VEHICLE
July 1, 1927

California	2.8
Kansas	2.9
Nevada	3.6
Florida	3.7
Iowa	4.2
District of Columbia	4.2
Indiana	4.2
South Dakota	4.2
Oregon	4.3
Michigan	4.3
Minnesota	4.4
North Dakota	4.4
Washington	4.5
Wisconsin	4.6
Colorado	4.6
Ohio	4.7
Nebraska	4.9
Vermont	5.0
New Hampshire	5.2
Wyoming	5.2
Texas	5.5
Oklahoma	5.6
Illinois	5.6
Missouri	5.7
Delaware	5.7
New Jersey	6.0
Idaho	6.1
Utah	6.2
Maine	6.2
Connecticut	6.3
Maryland	6.5
New York	6.6
Arizona	6.6
North Carolina	6.6
Massachusetts	6.7
Rhode Island	6.8
Montana	7.2
New Mexico	7.7
Pennsylvania	7.7
Virginia	8.5
West Virginia	8.5
Mississippi	9.0
Tennessee	9.2
Louisiana	9.2
Kentucky	10.1
South Carolina	10.6
Arkansas	11.0
Alabama	11.3
Georgia	12.3
Total United States	5.7

NUMERICAL GAINS AND LOSSES IN CAR AND TRUCK REGISTRATIONS
July 1, 1926, to July 1, 1927

Gains

New York	229,003
California	125,998
Ohio	121,939
Illinois	85,290
Texas	81,673
New Jersey	54,311
Indiana	54,263
North Carolina	49,977
Michigan	48,502
Tennessee	46,151
Wisconsin	38,785
Missouri	36,550
Minnesota	33,376
Virginia	24,824
Washington	23,968
Connecticut	22,460
South Carolina	22,173
Kansas	20,999
Maryland	20,989
Georgia	29,452
Massachusetts	19,454
West Virginia	16,792
Mississippi	13,500
Dis.rict of Columbia	13,452
Oregon	12,837
Iowa	11,997
Alabama	11,658
Rhode Island	10,653
Montana	7,300
New Hampshire	7,218
Vermont	6,305
Utah	6,259
South Dakota	5,000
New Mexico	4,473
Delaware	2,480
Wyoming	1,952
Nevada	1,369
North Dakota	1,059
Idaho	463
Total gains, United States	1,314,904

Losses

Colorado	206
Kentucky	1,011
Arkansas	1,526
Maine	3,979
Arizona	5,000
Louisiana	6,000
Oklahoma	6,225
Nebraska	31,922
Florida	34,210
Pennsylvania	60,396
Total losses, United States	150,575
Net gain, United States	1,164,329

PERCENTAGE GAINS AND LOSSES IN CAR AND TRUCK REGISTRATIONS
July 1, 1926, to July 1, 1927

Gains

Tennessee	20.7
New York	15.2
South Carolina	14.5
North Carolina	12.8
District of Columbia	11.5
Rhode Island	11.4
Vermont	9.9
New Mexico	9.6
Connecticut	9.5
Maryland	9.4
New Jersey	9.4
Ohio	9.3
New Hampshire	9.1
Virginia	9.0
Texas	9.0
Georgia	8.6
West Virginia	8.6
California	8.6
Utah	8.0
Montana	7.9
Indiana	7.9
Washington	7.4
Mississippi	7.3
Illinois	7.0
Nevada	6.7
Oregon	6.6
Wisconsin	6.6
Missouri	6.3
Delaware	6.2
Minnesota	5.8
Alabama	5.5
Michigan	4.9
Kansas	4.9
Wyoming	4.4
Massachusetts	3.2
Sou.h Dakota	3.1
Iowa	1.9
North Dakota	0.7
Idaho	0.5

Losses

Colorado	0.1
Kentucky	0.4
Arkansas	0.9
Oklahoma	1.4
Louisiana	2.8
Maine	3.0
Pennsylvania	4.6
Arizona	6.7
Florida	8.4
Nebraska	10.0
Total, percentage gain; U. S.	6.0

Survey of Refineries in Foreign Countries

TRINIDAD

From report by Vice Consul Alfredo L. Demorest, Trinidad

The three principal refineries in Trinidad, British West Indies, are: Trinidad Leaseholds, Ltd., at Pointe-a-Pierre; the United British Refinery, at Point Fortin, and the Trinidad Central Oilfields, Ltd., at Tabaquite.

In each of these refineries the plant equipment is modern. The products manufactured include gasoline, kerosene, Diesel oil, gas oil, and fuel oil. The supplies of crude oil are obtained locally. While there are various small topping plants for the use of other companies, their products are not yet established on a commercial basis.

The Trinidad Leaseholds, Ltd., employs two topping plants with rerunning stills and a capacity of about 40,000 tons per month. The gravity of the crude oil dealt with is 22 degrees Baume. To meet the need for increased production, this company is erecting a new double-unit Dubbs cracking plant, which will be in operation during the early part of 1927. The Trinidad Leaseholds, Ltd., is a subsidiary of the South African Diamond Co.

The United British Refinery employs the Trumble system of topping, with a production of some 10,000 tons per month. The gravity of crude oil dealt with here is 16 degrees Baume. This company is a subsidiary of the Royal Dutch Co.

The Trinidad Central Oilfields, Ltd., refines according to the Batch system, and has a capacity of from 2,000 to 3,000 tons per month. In addition to the products named above this company produces a limited quantity of lubricating oil. The gravity of crude oil dealt with is 42 degrees Baume. There is said to be some possibility of the Trinidad Central Oilfields, Ltd., being taken over by the Anglo-Persian Co.

ARGENTINA

From report by Assistant Trade Commissioner Sherwood H. Avery, Buenos Aires

There are five fairly large oil refineries operating in Argentina, in addition to the Government refinery at La Plata, the names of which, together with capacity, location, and products, follow:

Company, location—	Daily cap. metric tons	Mo. Consumption Metric tons	Products
National Refinery (Argentine Government, La Plata	2,000	50,000	Gasoline, kerosene and fuel oil.
West India Oil Co., Campana	500	12,000	Gasoline, kerosene, fuel oil and lubricants.
Cia. Astra (Argentina), Campana	60	1,300	Gasoline, kerosene, fuel oil and lubricants.
Cia. Condor (Argentina), Avellaneda	60	1,250	Gasoline, kerosene, fuel oil and lubricants.
Cia. Ferrocarrilera (British Railway), Comodoro Rivadavia	50		Gasoline and fuel oil.
Refineria Fragueiro, Avellaneda	50	40	Gasoline, kerosene and fuel oil.

The government refinery has installed two cracking units, which began operations on March 26, 1926. This refinery, constructed and now operated by an American steel company, will be turned over to the Argentine Government on or before October 15, 1926. The fuel oil will continue to be marketed by the Government petroleum division, as at present, while the other products will be distributed by private oil companies now operating in Argentina.

COLOMBIA

From report by Commercial Attache William Boaz, Bogota.

There is only one petroleum refinery in Colombia, it being owned by the Tropical Oil Co., located at Barranca Bermeja, a port on the lower Magdalena River. The crude petroleum refined at this plant comes entirely from the wells belonging to the Tropical Oil Co. These wells are situated a few miles from Barranca Bermeja.

The refinery was installed with new equipment in 1922. Recently the installation was modernized and the capacity of the plant increased. The products are gasoline, Diesel oil, and fuel oil, the capacity amounting to 6,000 bbls. of crude oil a day. During 1925, 617,000 bbls. of crude oil were refined at this plant.

The only changes in plant equipment contemplated at this time are for the purpose of increasing the fuel-oil production. This change is planned for the near future.

FOREIGN REFINERIES

In its July 21 issue (page 153), The Oil and Gas Journal started the publication of a survey of foreign refineries. This survey was compiled by the Department of Commerce and is based on reports of consular officers of the Department of State and oversea representatives of the Department of Commerce.

In the July 21 issue, a partial report of the refineries in the western hemisphere was given. In this issue the report for North and South America is completed. The reports for Austria and Belgium are also given. The remainder of the complete report will be published in later issues.

ECUADOR

From report by Consul Harold D. Clum, Guayaquil.

There are four refineries in Ecuador, all of them relatively small. They are located in the canton of Santa Elena (Province of Guayas). This canton lies along the Pacific coast and west of the port of Guayaquil. The first two refineries in the following list are British owned, the other two locally owned. Each company draws its supply of crude petroleum from neighboring oil fields, the first three companies operating their own wells, while the Herederos de Panchano purchases its crude oil from one of the other three. The names, locations, and capacities of the four refineries follow, the figures indicating the crude consumption in barrels per day:

	Bbls.
Anglo-Ecuadorian Oil Fields, Ltd., refinery at Libertad	80
MacKay-Harmsworth Oil Exp., Ltd., refinery at Cautivo	20
Juan de D. Lecaro, refinery at Carolina	75
Herederos de Panchano, refinery at Ensenada	12

The wells of the Anglo-Ecuadorian Oil Fields, Ltd., are near Ancon, about 9 miles from the refinery. They are said to have a daily yield of some 1,200 bbls. The refinery at La Libertad is the only one in Ecuador possessing anything like modern equipment, and an additional plant of capacity equal to the old plant is now being installed there. There is an old 80-bbl. refinery at Ancon, but it is now used solely for the purpose of distilling sea water. The products from the modern plant are gasoline, kerosene, and fuel oil.

The refinery of the MacKay-Harmsworth Oil Exploration, Ltd., produces gasoline and fuel oil only. The crude petroleum received from the company's oil wells near by has an asphaltic base and contains sulphur. The oil refinery equipment still in use does not lend itself to the satisfactory production of kerosene. There are apparently no immediate prospects, however, of any improvement upon the present installation.

While the full capacity of the Juan de D. Lecaro refinery is relatively important, the plant equipment there is altogether antiquated. At the present time only one charge is being distilled a week. No improvements are contemplated. The products of this refinery are gasoline, kerosene, fuel oil, and brea, or pitch.

The Herederos de Panchano refinery produces gasoline and kerosene. Its equipment is primitive.

PERU

From report of Peruvian Government Technical Supervisor of Lands and a report by Humberto Camillom, clerk to the American commercial attache, Lima.

The largest of the two refineries in Peru, as well as the largest refinery anywhere on the west coast of South America, is owned by the International Petroleum Co., located at the port of Talara. The installation is thoroughly modern and, according to a recent report by the technical supervisor of petroleum lands of the Peruvian Government, has a crude consumption capacity of 15,000 bbls. a day. In 1921 this refinery handled over 97 per cent of the petroleum treated in Peru. Its supply of crude oil is obtained entirely from the company's own oil fields with the exception of some Mexican crude oil which the company imports, free of duty, for the purpose of obtaining such products as cannot be refined from Peravian petroleum.

The refinery is connected with the company's oil fields by means of a 6-inch pipe line and some 27 miles of narrow gauge railroad. The supply of Mexican crude oil arrives in tank ships and is pumped direct to the refinery. Additional pipe lines also run into the bay in order to facilitate the loading of bunkers. In 1923 the products from this refinery were as follows:

Products—	Bbls.	Pct.
Gasoline	195,010	5.86
Crude naphtha	1,119,622	33.23
Kerosene	109,421	3.27
Gas oil	18,018	.54
Combustible residue (fuel oil)	1,840,807	55.07
Lubricants	14,571	.43
Losses	54,143	1.60
Total	3,342,592	100.00

The refinery at Talara has recently taken up the manufacture of gasoline from gas, thereby eliminating much of what was formerly waste from many of the company's wells. The casinghead gasoline is used to improve the quality of their ordinary commercial gasoline.

Before being placed on the market, the gasoline and kerosene obtained from petroleum require sulphuric acid treatment. The crude naphtha is shipped either to the United States or to Canada for further refining, while the combustible residue, or fuel oil, is marketed mainly in South and Central America. There is a total storage capacity of 1,500,000 bbls. near the refinery, distributed among 160 tanks.

The refinery at Zorritos is owned and operated by the Establecimento Industrial de Petroleo de Zorritos. This company owns the wells in the Zorritos district, all the petroleum from which is refined at its own plant. The petroleum from these oil fields amounts to less than 3 per cent of the total Peruvian output, the production of the Zorritos refinery being secondary to that of the refinery at Talara.

In 1924 there were slightly over 90,000 bbls. of crude petroleum produced in the Zorritos oil fields. According to the report of the Government technical supervision, previously referred to, the capacity of this refinery is 1,000 bbls. per day, though only between 200 and 300 bbls. were actually being refined.

The principal products obtained are gasoline, kerosene, and fuel oil. The kerosene produced at Zorritos is said to be of a very high grade, finding a ready market in Peru and contiguous countries.

According to statements appearing in the Lima press during January, 1927, H. V. Holden, a British subject, is authorized by the Peruvian Government to organize and manage a gasoline monopoly in Peru. A contract to this effect is said to have been signed by the Director General of Finances and Mr. Holden on December 20, 1926. As the establishment of such a monopoly requires the consent of congress, the project may take some time to become operative. An extraordinary legislative session, extending that of 1926, has just expired with no apparent discussion of this matter. It is therefore probable that any question as to the monopoly will now be deferred until the next session, July, 1927.

AUSTRIA

From report by Assistant Trade Commissioner John A. Embry, Vienna.

There are only three refineries in Austria adequately equipped to handle crude petroleum, and the dismemberment of the Austrian Empire and the erection of customs barriers in the secession states hurt them severely. One has closed down entirely, while the other two are operating at about 50 per cent of their capacities. Whereas the three refineries have a combined annual capacity of 70,000 tons of crude, Austria's consumption of crude oil was only 18,410 tons in 1924 and 17,240 tons in 1925.

The chief sources of crude petroleum are Russia and the United States. Small quantities of crude petroleum and residue are also imported from Rumania and Poland.

There follows a list of Austrian crude petroleum refineries, with information as to the location, ownership, equipment, capacity, and the products manufactured by each.

Aktien-Gesellschaft der Wien-Floridsdorfer Mineraloelfabrik, I. Kolowatring 14, Vienna.—Refinery at Floridsdorf (Vienna XXI), owned by same firm and leased to Shell-Floridsdorfer Mineraloel Vertriebs-Gesellschaft m. m. H., Vienna. The equipment is old and consists of crude stills, tar stills, agitators, a paraffin plant, and a filtering plant. The products manufactured are gasoline, refined oil, lubricating oils, wax. Capacity, approximately 40,000 tons of crude petroleum per year, but estimated to be running at about 50 per cent at present.

"Schodnica" Aktien-Gesellschaft fuer Petroleum-Industrie, I. Graben 29, Vienna.—Refinery at Drossing; owned by Dabrowa, Paris; equipment, old, consisting of crude stills, agitators, and a paraffin plant. Products manufactured are gasoline, refined oil, lubricating oils, wax. Capacity, approximately 20,000 tons of crude petroleum per year; running at about 50 per cent at present.

Ruetgers A. G., I. Hoher Markt 8, Vienna.—Refinery at Angern; owned by same firm: equipment, old, consisting of crude stills, agitators, and a paraffin plant. Products manufactured are gasoline, refined oil, lubricating oils, wax. Capacity, 10,000 tons per year. The firm having gone into bankruptcy, the refinery is now shut down.

Benzin & Oelindustrie Kagran vormals Gustav Loenig & Co.—This plant, owned by Vacuum Oil Co., A. G., consists primarily of a gasoline distilling installation, having a capacity of several thousand tons per year. Small quantities of crude petroleum, free from paraffin, can be refined there, though no crude petroleum refining is now being done.

The following are finishing plants equipped only to handle distillates:

Aktien Gesellschaft fuer Mineraloelindustrie vormals David Fanto & Co., III. Schwarzenbergplatz 5a, Vienna.—Finishing plant only (old equipment); products manufactured are gasoline and lubricating oils; capacity, 6,000 tons lubricating oil distillates, 7,200 tons raw benzine per year.

"Danubia" Mineraloelindustrie, A. G., 7. Henngasse 6, Vienna.—Owned by Gallia, A. G.; finishing plant only (old equipment); product manufactured is gasoline; capacity is 2,500 tons raw benzine per year.

Ludwig Barnauer, IV. Brucknerstrasse 4, Vienna.—Finishing plant only (old equipment); products manufactured are lubricating oils and greases; capacity, 500 tons (treats lubricating oil distillates only).

BELGIUM

From report by Commercial Attache Mowatt M. Mitchell, Brussels.

The importance of Belgium in the petroleum refining industry is almost negligible. There is only one installation

(Continued on Page 204)

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Development of Measurement of Gas

Principles Explained and Various Types of Meters Described. Sizes Differ Greatly and Handle Small or Large Volume.

By John C. Diehl

In the June 16 issue of The Oil and Gas Journal, Mr. Diehl began a series of articles on the development of the measurement of natural gas. The article below is a part of the series and a continuation of the article published June 16.

The Domestic Meter

The positive displacement dry meter is the type of gas meter used in this country for measuring gas to domestic consumers, and it is also generally used for measuring gas to industrial consumers using less than 10,000 cubic feet of gas per hour. In cases where the consumption is greater than this, meters are often set in batteries; that is, two or more in parallel.

Displacement meters are made in appropriate sizes for measuring volumes varying from about 150 cubic feet per hour up to about 8,000 cubic feet per hour. While the details of construction and the mechanical features of valve design and operation are different in the various makes they are all based upon the application of the same general principle; namely, that of alternately filling and emptying chambers which have movable walls, the movement of the wall being so regulated that the cubical displacement on successive cycles is the same.

Principle of Measurement

The principle of measurement of the gas meter has been compared with the measurement of a liquid from a cask into a quart measure. Each time the quart measure is filled the spigot is closed and a cock controlling an opening in the bottom of the measure is opened. When empty the cock is closed and the spigot is opened. This process is repeated, and the number of measures emptied are counted to determine the quantity of liquid drawn from the cask.

In order to obtain accurate measurement, the following conditions must be fulfilled:

1. The measure must hold exactly one quart.
2. While the measure is being filled from the spigot, no liquid must be allowed to escape into the receptacle for the measured liquid.
3. After the measure has been filled, the spigot must be completely closed before the measure starts to empty.
4. An accurate count must be obtained of the number of measures filled and emptied.

The gas meter contains four of these measures which operate simultaneously—some filling while others are emptying, but always fulfilling the above conditions, thereby insuring a uniform delivery of gas. Each of these measures is the difference in capacity of the diaphragm at the limit of its filling and emptying stroke. The length of these strokes is accurately adjusted to make the difference in diaphragm capacity equal to a definite volume. The mechanism is constructed so that it registers the number of times each measuring chamber is filled and emptied by expressing the total volume in cubic feet on the index which is operated from the crank by the movement of the diaphragm.

The use of iron-case meters came about very largely in conjunction with the development of natural gas. In most districts where natural gas was first supplied, the service pressures were much higher than those common to manufactured gas and it was thought that the tin-case meters could not withstand these higher pressures. That this belief was well founded is questionable and the question of the pressure being too high for a tin-case meter is seldom raised now. However, it was found that in many districts using natural gas, the construction of the houses was such as to make it necessary to place the meters in locations where they are exposed to the weather and the iron-case meter seemed to withstand this exposure better than the tin-case meter. Moreover, the iron-case meter is more easily and quickly repaired than the tin-case meters in small shops. These two points are of considerable importance to companies distributing natural gas to consumers, a large portion of whom are in small towns and rural districts.

Meters for Large Volumes

All measurement of gas naturally resolves itself into two factors: accuracy and the life of the meter. Two general types of meters are used for the measurement of large volumes: the large capacity displacement meter and the orifice meter, also variations of these two types.

A large capacity displacement meter measures all the gas which passes through the meter from the zero flow up to the maximum capacity of the meter, and therefore its range is limited only by its maximum capacity. In the case of the proportional meter (the meter which measures a part of the volume and by means of gearing converts this proportion into a total volume) the ratio of maximum to minimum flow is limited, due to the fact that the minimum rate which can be registered on a proportional meter depends upon the differential (about 0.15 inch of water) required to operate the positive meter portion of the proportional meter. Its tendency, therefore, is to pass gas at low rates of flow without measurement. Its minimum capacity is about 15 per cent of its maximum capacity.

In the case of the orifice meter, the characteristics are such that it depends primarily upon a differential or difference in pressure existing at the two sides of the orifice, and since the rate of flow is proportional to the square root of the differential its minimum capacity is limited by the percentage error in the result of the closest possible reading on the chart, so that its minimum capacity for accurate measurement for any particular orifice is one-fourth of the maximum.

In the majority of installations the orifice meter will record accurately the rates of flow which are likely to occur in most lines, and if for any reason the maximum is increased, the size of the orifice may be increased, or if the minimum rate is below the proper limits for measurements, the orifice may be decreased, so that its capacity may be varied to meet the conditions to flow existing in the line.

Large Capacity Meters

Large capacity displacement meters are used extensively for measuring gas under a vacuum or under pressure up to 500 pounds. They are most satisfactory for measurement where the maximum rate of flow is such that the meter is not being operated at a rate which is too fast for serviceable life. Good practice usually requires that a reasonable service can be obtained from a meter without excessive repairs if the differential (difference in pressure between the inlet and outlet of the meter) never exceeds 2 inches of water when measuring gas at or near atmospheric pressure. If the differential is greater than 2 inches, it means that the meter is possibly being operated too rapidly and the pressure acting upon the valves may be increased so that additional friction is produced in the meter, consequently the meter parts are likely to wear out more rapidly than if operated at less than 2 inches at atmospheric pressure.

It must be remembered that as the rate of flow increases the differential increases as the square of the rate of flow. For example, if a certain meter passes or measures 1,000 cubic feet an hour at a differential of 2 inches and the rate is increased to 2,000 cubic feet an hour, the differential will become 4 inches. Likewise, if the rate is increased to 4,000 cubic feet an hour, the differential across the meter will become 16 inches. Therefore the pressure acting upon the valves will produce increased friction at the same rate.

Another factor which should be considered in measurement of high-pressure gas with a displacement meter is that the differential or the friction loss through the meter increases in direct proportion to the increase in the pressure if the index rate remains the same per hour. For example, if the maximum capacity of a meter is 1,000 cubic feet an hour at a differential of 2 inches of water, and this meter is used with the same gas under a pressure of 60 pounds gauge or 75 pounds absolute at an index rate of 1,000 cubic feet an hour, the differential or friction loss across the meter will be five times 2 inches or 10 inches. This 10-inch differential pressure will produce an additional friction on the valves and therefore the meter parts will wear more rapidly than if it were used at atmospheric pressure at an index rate of 1,000 cubic feet an hour. It is quite probable that it is not advisable to reduce the capacity so that the maximum differential across the meter should not exceed 2 inches. It is advisable to make a compromise so that the index rate an hour will become less as the pressure increases.

Especial attention is called to the use of displacement meters on high-pressure lines. When a valve is abruptly opened, permitting high pressure gas to enter the meter suddenly, or gas which is under compression in the meter to leave the meter suddenly, the pressure acting on the diaphragms is greatly increased and produces a shock on the diaphragms which may wreck the meter and which quite often breaks the middle partition in the meter. Opening a valve in this manner produces the same effect as would be produced by dropping an object from a considerable height onto the platform of a delicate weighing scale, in which case the knife edges of the scale would be damaged if not completely broken.

In many instances meters have been completely wrecked by blowing drips in a line ahead of the meter. A sudden reduction in pressure due to blowing the drip reduces the pressure in the line and subsequently increases the velocity through the meter creating an excessive differential. In addition to this damage, the increased velocity carries scale and dirt into the meter which lodges on the valve and on the top of the table, causing additional friction and consequent damage to the meter.

To reduce the probability of damage to high pressure displacement meters by the sudden opening of a valve by persons not conversant with the damage which may occur to meters, it is recommended that orifices be placed in the line so that the maximum rate of flow which will occur by quickly opening a valve may be limited to two or three times the maximum capacity of the meter under the most adverse conditions. These orifices have been used with success by a number of companies. It is true that their use is not advisable in all instances, but they are especially recommended for use with meters in residue lines from casinghead gasoline plants where the pressure is fairly constant up to the meter.

The following table gives the approximate diameter of orifice which may be used to reduce or eliminate the damage to meters or pressure lines from careless handling of valves and blowing the drips.

Orifices for Positive Meters

Meter capacity in cubic feet an hour at two inches differential at atmospheric pressure.

Pressure	1,000	2,000	4,000	8,000
10	0.38	0.54	0.76	1.08
25	0.33	0.47	0.66	0.93
50	0.32	0.46	0.64	0.91
75	0.32	0.46	0.64	0.91
100	0.32	0.46	0.64	0.91

In cases where meters are set in parallel, to prevent one meter from taking all of the load while the other meter fails to register due to slightly different friction losses in the meter, it is recommended that orifices having similar diameters be installed ahead of each meter, also that the total length of piping from junction to junction of the main line across the meter shall be the same for each meter, so that the friction drop through the pipe be the same for each meter.

The sizes of orifices which will produce a loss of 2 inches of water at atmospheric pressure are given in the following table:

Capacity of meter at 2 inches of water differential	Diameter orifice required 2 in. water loss at meter capacity
1,000	0.875
2,000	1.250
4,000	1.625
8,000	2.125

Volume and pressure gauges are generally used with meters on high-capacity lines. It is necessary that the volume and pressure-gauge be accurately calibrated as to pressure and that, in cases where the flow varies from hour to hour, the proper multiplier should be used for the period during which the volume has passed the meter. It is quite possible to obtain a considerable error if average pressure multipliers are used rather than by dividing charts into periods for each 1,000 or 10,000 cubic feet of flow.

Recording Pressure Gauge

Where gas is measured at a greater pressure than 4 ounces or under a vacuum, especially if the pressure varies, a recording gauge is required to determine the average pressure (throughout the 24 hours), so that the base pressure multiplier for the average pressure can be applied to convert the meter readings into cubic feet at the base pressure. The recording gauge reading should be set on the meter and, if it is a 24-hour gauge, the chart should be removed daily and the days' meter reading, together with the previous day's reading, written on the back of the chart.

The pressure springs of recording gauges used in connection with large capacity meters should be tested periodically as an error of 10 pounds would amount to 7 per cent at 125 pounds pressure.

Gauge for Recording Volume and Pressure

Seldom is natural gas or casinghead gas sold in the field at atmospheric pressure or a low pressure. It is not uncommon to measure casinghead gas at 25 inches of mercury vacuum, and natural gas at a pressure as high as 500 pounds. In buying or selling gas there is a recognized low base pressure which varies from atmospheric pressure up to 2 or 3 pounds—it is generally specified in the purchase agreement or contract.

All large-capacity, casinghead, or proportional meters are displacement meters which measure the volume in cubic feet at the line pressure; consequently, the meter readings must be converted by using the multipliers for pressure as previously explained.

When the pressure varies over 10 per cent during the day, a gauge for recording the volume and pressure should be

(Continued on Page 173)

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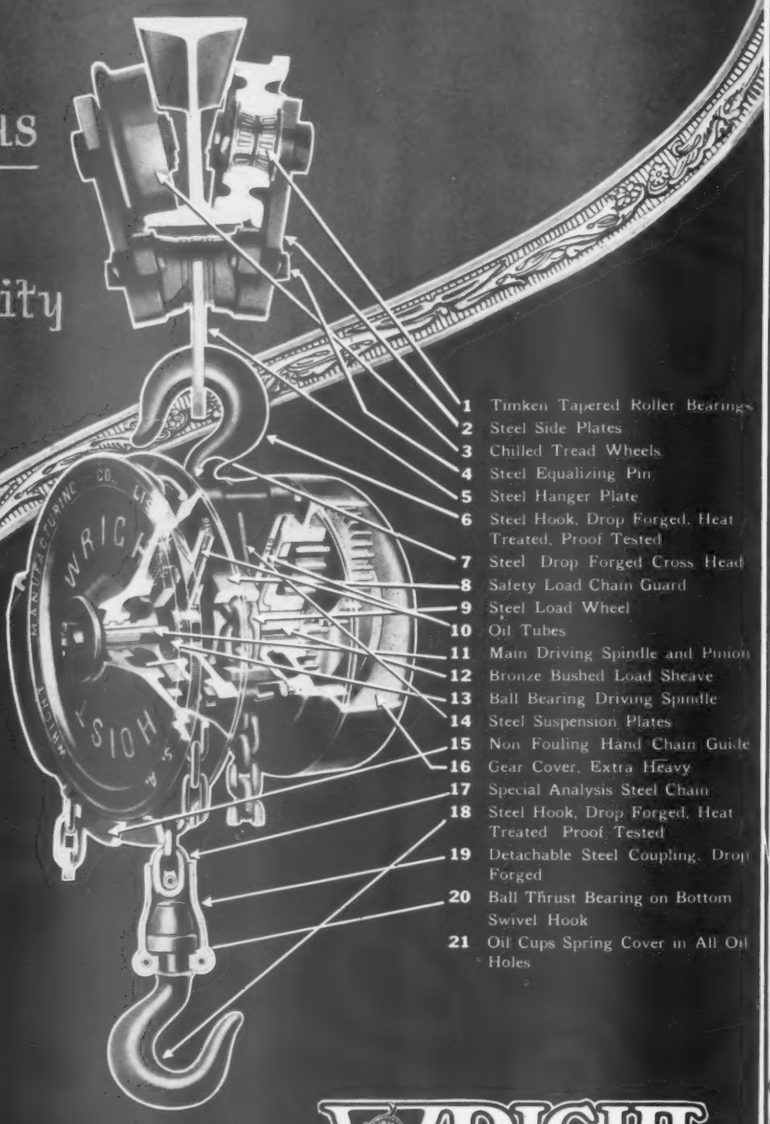

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12 Bronze Bushed Load Sheave
13 Ball Bearing Driving Spindle
14 Steel Suspension Plates
15 Non Fouling Hand Chain Guide
16 Gear Cover, Extra Heavy
17 Special Analysis Steel Chain
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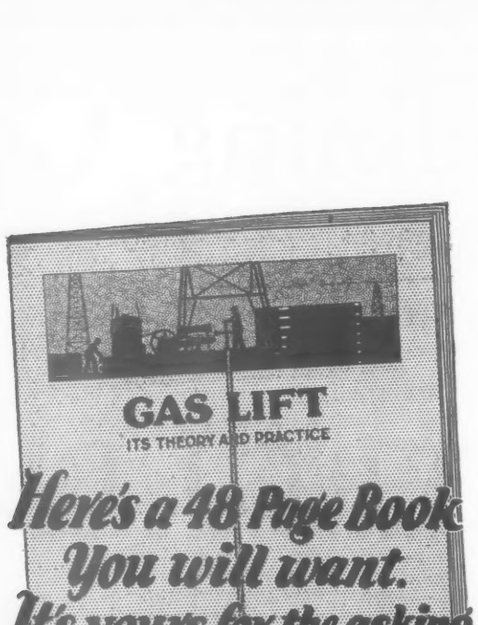

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CALIFORNIA MARKET CONTINUES STRONGER

LOS ANGELES, Calif., July 22.—The California oil market continues to enjoy a stronger position than for several months. Domestic gasoline sales are very heavy due to summer demand now at its height. There is less price cutting and the market is generally in a healthier position. Marketers are almost unanimous that gasoline prices will be raised 1 cent per gallon on July 29 to take care of the increase of 1 cent in state tax.

The domestic kerosene market has also shown signs of firming. Prices remain substantially the same but the general tone is showing improvement. This is due to a great extent to the fact that smaller refiners, seeing the results obtained from their endeavors to stabilize the price of "bootleg" gasoline, have started in to improve kerosene prices also.

Exports to the Atlantic Seaboard showed an increase during the past week, 558,215 bbls. being taken in this trade. Atlantic foreign shipments also show improvement, totaling 540,001 bbls. for the week. Pacific foreign shipments dropped to just under 350,000 bbls. This trade is expected to improve later as when fall comes in this country it will be winter in the Antipodes, which is the season of heavy consumption of gasoline. California marketers are lining up all the possibilities they can in this market at present.

Figures just released by the American Petroleum Institute show that total stocks in California during June decreased by 464,557 bbls. The total stock increase for 1927 as of June 30 was only 171,029 bbls. During June heavy crude, including all grades of fuel of 20 degrees gravity A. P. I. and heavier increased 183,104 bbls. All other products decreased during the month, stocks of refinable crude being diminished by 190,855 bbls. and gasoline 105,634 bbls. These figures in themselves give a good indication why the California oil market is in a better condition than perhaps any other part of the United States. In the face of present heavy overproduction with the consequent large increases in stocks, it is quite surprising that the total stock increase in California has been so small.

COASTAL LUBRICANTS EASE OFF DURING WEEK

HOUSTON, Tex., July 25.—Lubricating grades made from Gulf Coast crudes eased off a little during the week, which is not unusual at this season. This statement applies with special emphasis to the domestic jobbing demand. Sales managers report more business than one year ago, but at a lower level of prices. A surplus is reported in some grades of lubricating stocks.

The export demand is slower than a year ago, but buyers for bulk quantities of several grades are in the market and more are expected as the season progresses. In most cases the inquiries ask for quotations on deferred deliveries.

The market on gas oil is very sluggish. Grade C bunker oil is reported at $1.30 at New Orleans. Fuel oil is unchanged. The introduction of natural gas in Houston, Beaumont and other places has curtailed the use of fuel oil to a marked degree. The two large sulphur plants in Brazoria and Matagorda Counties in Texas, now using natural gas for fuel, formerly used from 6,000 to 7,000 bbls. of fuel oil each per day.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 46)

CROCKETT COUNTY

George Anderson and Marland Oil Co.'s No. 1 University.. Spudding 250 ft.
V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur. ..... Shut down 2,110 ft.
Corbett & Gill's No. 1 Todd ..... Location.
Corbett & Gill's No. 1 University ..... Location.
J. K. Hughes' No. 2-B Powell, Sec. 63, E. L. & R. R. Sur., Elev. 2,783 feet ..... Fishing for 18 joints 8-in.; total depth 2,535 ft.; shut down.
Magnolia Petroleum Co.'s No. 2 Shannon ..... Show oil 2,385-90 and 2,992 ft.; total depth 4,100 ft.; fishing 20 joints 8-in. casing.
Newman Oil Co.'s No. 1 B. C. Clark ..... Location.
William Shaffer et al's No. 1 University, C SE SE Sec. 9, Blk. 47, University Sur., elev. 2,344 ft. ..... Total depth 2,344 ft.; plugged back to 2,208 ft.; shot 10 qts. 2,170-95 ft.; shut down.
William Schaffer et al's No. 2 University, 1,350 ft. N and 2,610 ft. E of SW cor. Sec. 9, Blk. 47, Uni. Land.... Top salt 1,060 ft.; running 8-in. 2,090 ft.
W. W. Donnelly, Young, Logan & Hult's No. 1 Pierce, C SW Sec. 150, Blk. O. G. H. & S. A. Sur., elev. 2,105 ft. ..... Rainbow show 454 and 540 ft.; resumed drilling at 1,375 ft.
Kirby Oil Co. and Taylor-Link Oil Co.'s No. 1 Powell.... Rig.
P. H. Williams' No. 2 L. P. Powell ..... Rigged up.
McMammon Oil Co.'s No. 1 Blakeney ..... Moving in machine.
Young & Donnelly's No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D. & S. E. Sur. ..... Spudded and shut down.

CULBERSON COUNTY

James H. Gardner et al's No. 1 Radford, C SE Sec. 29, Blk. 62, Public School Land Sur. ..... Drilling 545 ft.
Scott & Dittman's No. 1 Miller, SW cor. NW NE Sec. 1, School Blk. 97 ..... Spudded and shut down.

DAWSON COUNTY

R. R. Penn's No. 1 Wright, elev. 2,842 ft. ..... Top salt 1,750 ft.; drilling 1,910 ft.

ECTOR COUNTY

J. S. Cosden, Inc., et al's No. 2 Connell-A, NW cor. NE Sec. 13, B-16, School Land, elv. 2,844 ft. ..... Top salt 870 ft.; top lime 3,177 ft.; first show 3,420-22 ft.; pay 3,471-3,515 ft.; 160 ft. oil in hole; shot 180 qts.; estimated 1,000,000 ft. gas; swabbed and flowed 82 bbls. June 30; cleaned out and shut down for orders; 800 ft. oil in hole.
J. C. Cosden et al's No. 3 G. W. Connell-A, SE cor., NE, Sec. 13, Blk. B-16. ..... Top salt 863 ft.; show oil 3,375 ft. and 3,499 ft.; top lime 3,195 ft.; shot 208 qts. 3,465-3,545 ft.; 300 ft. oil in hole; shut down.

FISHER COUNTY

Zoch & McCamey and Marland Oil Co.'s No. 1 Lanius A (was Danciger O. & R. Co.'s No. 1 Lanius), NE cor. SE Sec. 15, Blk. Y. T. & P. Sur. ..... Set 5-in. 3,661 ft.; hole full water 3,770 ft.; small show gas 3,906 ft.; drilling 3,968 ft.
Ideal Oil Co.'s No. 1 Jameson, C SE Sec. 111, Blk. 1, H. & T. C. Sur. ..... Hole full salt water 2,345-2,620 ft.; shut down for orders 3,304 ft.
Marland Oil Co. and Texon's No. 1 McCall, Sec. 108, Blk. 3, H. & T. C. Sur. ..... Rig.
Marland Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow, Sec. 3, Blk. 22, T. & P. Sur. ..... Hole full water 3,125-75 ft.; temporarily abandoned at 3,500 ft.
Miley Oil Corp. and Marland Oil Co.'s No. 1 W. W. Ammons, Sec. 198, Blk. 3, H. & T. C. Sur. ..... Drilling 2,510 ft.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T. & P. Sur. ..... Shut down for orders 2,725 ft.
Sinclair Oil & Gas Co.'s (was Bourdon Royalty Co.'s) No. 1 J. A. Danise, Sec. 6, Blk. K, T. & P. Sur..... Underreaming 12-in. 1,225 ft.
The Texas Company's No. 1 D. S. Stevens, C SW SE SE Sec. 79, Blk. 1, H. & T. C. Sur. ..... Eight-in. froze 2,302 ft.

FOARD COUNTY

C. H. Clark et al's No. 1, SW cor. Sec. 89, Blk. 44, H. & T. C. Sur. ..... Rig.
Humble O. & R. and Navarro Oil Co.'s No. 1 L. McAdams, C S ½ Sec. 27, Blk. L, S. P. Sur. ..... Hole full water 2,560 ft.; cleaning out and underreaming casing 3,460 ft.
The Texas Company's No. 1 Watkins ..... Drilling 1,725 ft.

GAINES COUNTY

Westheimer & Daube's No. 1 Birge & Forbes Land Co., Sec. 308, Terrell County School Land ..... Rotary drilling 3,755 ft.

GARZA COUNTY

Emerald Oil Co.'s No. 1 D. Boren, NW cor. NE Sec. 137, Blk. 5, H. & G. N. Sur. ..... Small show oil in gray lime 1,884-1,902 ft.; shut down 2,600 ft.; show oil and hole full water 2,420-60 ft.
Pandem Oil Co.'s No. 1 Justice, SW cor. NW Sec. 2, Blk. 6, H. & G. N. Sur. ..... Fishing bailer 1,510 ft.

GLASSCOCK COUNTY

California Co.'s No. 1 W. B. Currie, Sec. 215, Blk. 29.... Drilling 630 ft.
Green et al's No. 1 F. G. Oxsheer, Sec. 6, Blk. 34, T. & P. Sur., elev. 2,540 ft. ..... Top salt 1,245 ft.; drilling 1,800 ft.
Landreth Producing Corp.'s No. 1 A. L. Houston, elev. 2,611 ft. ..... Top salt 1,410 ft.; drilling 2,430 ft.
World Oil Co. and J. S. Meriwether's No. 1 L. S. McDowell, C SW Sec. 43, Blk. 34, Twp. 2-S, T. & P. Sur., elev. 2,553 ft. ..... Top salt 1,180 ft.; running 8-in. 2,150 ft.
Sid Richardson, C. O. Collins and Merle Cadman's No. 1 Burns, NE cor. SW Sec. 183, Blk. 29 ..... Drilling 2,170 ft.

HOWARD COUNTY

Fred Carey et al's No. 2 G. O. Chalk, SE NW Sec. 124, Blk. 29 ..... Shut down 1,040 ft.; hole full salt water.
W. W. Donnelly et al's No. 1 Martin, SE cor. Sec. 41, Blk. 33, T-2 N. T. & P. Sur., elev. 2,552 ft. ..... Shut down 2,100 ft.
Francis & Brunson's No. 1 J. W. Furth, C SW Sec. 11, Blk. 31, T. & P. Sur., T-1-S ..... Location.
Henshaw et al's No. 1 W. R. Settles..... New location.
Henshaw et al's No. 1 S. T. Eason, Sec. 6, Blk. 32, T. & P. Sur., T-2-S..... New location; rigging up rotary.
Marland Oil Co. and Zoch's No. 1 Jones, Sec. 32, Blk. 27, T. & P. Sur., elev. 2,218 ft. ..... Shut down 500 ft.
Marland Oil Co.'s No. 1 A. M. Fisher, Sec. 1, Blk. 33, T. & P. Sur., T-2-S, elev. 2,730 ft. ..... Drilling 1,430 ft.
L. C. Harrison et al's No. 1 Dora Roberts, Sec. 156, Blk. 29, elev. 2,683 ft. ..... Show oil 1,632-38 ft.; drilling 1,950 ft.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Mrs. Connaly ..... Location.
Texon O. & L. Co.'s and Marland Oil Co.'s No. 2 W. R. Settles ..... Standard rig.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Mabel O. Quinn ..... Spudding.

HUDSPETH COUNTY

Lockhart Brothers' No. 1 Gardner & Moseley, C SE Sec. 5, School Blk. 21 ..... Shut down 235 ft.

IRION COUNTY

Cash Dollar et al's No. 1 G. J. Bird, NE Sec. 16, Blk. 10, S. P. R. R. Sur. ..... Shut down 2,500 ft.

JONES COUNTY

Midwest Exploration Co.'s (was Campbell et al's) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft. ..... Top pay 2,498 ft.; deepening to 2,524 ft.; swabbed 115 bbls.; drilling 2,720 ft.
Garland & D'amond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands ..... Drilling 750 ft.
Gillette & Hickey's No. 1 M. E. Young, Tevanio Sur. No. 190 ..... Swedging casing 1,750 ft.
Hutson & Weaver's No. 1 Smith, Sec. 51, Blk. 18, T. & P. Sur. ..... Shut down for fuel 700 ft.
Kirk & Brewer's No. 1 J. H. Milsap, Justo Rodriguez Sur., League 357 ..... Hole full salt water 2,403-10 ft.; rainbow show oil 2,720 ft.; sidetracking bit at 2,910 ft.
Manhattan Oil Co.'s No. 1 S. W. King, Sec. 198, James Bartlett Sur. ..... Drilling 2,005 ft.
Marston Oil Co.'s No. 1 E. Howell, NW cor. SE W ½ of N 400 acres, Sec. 20, Blk. 19, T. & P. Sur..... Small show oil 2,496 ft.; shut down 2,545 ft.
Marston Oil Co.'s No. 1 J. S. Swan, Robert Spears Sur. No. 280 ..... Hole full salt water 2,390-2,406 ft. and 2,435 ft.; hole full salt water 3,015-20 ft.; shut down 3,368 ft.
W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 ..... Drilling 1,440 ft
Stebbins Oil Co.'s No. 2 Higgs, SE cor. Sec. 30, W. T. Scott Sur. ..... Location.
Swensondale O'l Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands ..... Shut down for fuel 2,156 ft
Tomberlin et al's No. 1 Oscar Clapp, CSL SW Sec. 37, Blk 16, T. & P. Sur. ..... Shut down 1,805 ft.

KENT COUNTY

Douglas Oil Co.'s No. 1 Scoggins, Sec. 57, Blk 7, H. & T. C. Sur. ..... Drilling 3,795 ft.
Marland Oil Co. and Texon O. & L. Co.'s No. 1 Bilby, Sec. 41, Blk. K. Thompson Sur. ..... Location.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Jones, CSL Sec. 111, Blk. C, H. & T. C. Sur. ..... Hole full water 2,850-62 ft.; shut down 3,505 ft.
Deep Rock Oil Co.'s No. 1 Beavers, CSL Sec. 224, Blk. 44, elev. 1,441 ft. ..... Total depth 2,865 ft.; rig burned down second time.
Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,590 ft. W of NE cor. Sec. 31, Blk. 4..... Shut down for 10-in. 1,150 ft.
Humble O. & R. Co.'s No. 1 Goode, 1,940 ft. S and 200 ft. W of NE cor. Sec. 7, H. T. & B. Sur. ..... Hole full water 1,710-15 ft.; cleaning out 2,800 ft.
The Texas Company's No. 1 J. O. Bowden, Sec. 115, Blk. 45, H. & T. C. Sur. ..... Lime 1,240-45 ft.; estimated 100,000 ft. gas; hole full water 1,835 ft.; underreaming casing.
The Texas Company's No. 1 Teague ..... Drilling 2,100 ft.

LOVING COUNTY

Kingwood Oil Co.'s No. 1 T. O. Moore, C NE Sec. 2, Blk. G-25, Public School Land, elev. 3,120 ft..... Top salt 1,210 ft.; show gas 1,600-15 ft.; shut down 2,725 ft.
Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur., elev. 2,934 ft. ..... Shut down 1,020 ft.; in litigation.

LYNN COUNTY

The Hart Oil Corp.'s No. 1 C. O. Edwards, NW NW Sec. 5, Blk. 2, L. & S. V. Sur. ..... Shut down 1,400 ft.; to skid rig.

MIDLAND COUNTY

Orbit Oil Co.'s No. 1 Moreland, C SE Sec. 17, Blk. 39, T. & P. Sur. T-1-S ..... Shut down 185 ft.

MITCHELL COUNTY

Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. Sur. T-1-N ..... Drilling 1,475 ft.
Magnolia Petroleum Co.'s No. 1 T. L. McKenney, Sec. 20, Blk. 29, T. & P. Sur. T-1-N ..... Drilling 3,810 ft.
Magnolia Petroleum Co.'s No. 2 W. W. Watson ..... Underreaming 5-in. 4,105 ft.
Tex-O-Kan O'l Co. and Robert Thraves' No. 1 W. F. Sanders ..... Drilling 1,550 ft.
B. E. Walter et al's No. 1 J. E. Dollen, NW cor. SW Sec. 11, Blk. 27, T. & P. Sur. ..... Shut down 3,955 ft.; hole full sulphur water.

NOLAN COUNTY

A. G. Malone et al's No. 1 M. C. McElmurry, Sec. 36, Blk. 20, T. & P. Sur. ..... Spudded and shut down; rig blew down.
J. H. Winemiller Corp.'s (was Peters et al's) No. 1 Booth, Sec. 90, Blk. 21, T. & P. Sur. ..... Drilling 1,685 ft.
Herbert Oil Co.s (was McClesky and others') No. 1 Tepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur.... Rigged up and shut down.
Phillips Petroleum Co.'s No. 1 Scott, Sec. 58, Blk. 21, T. & P. Sur. ..... Running 6-in. 3,490 ft.
Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur. ..... Shut down 2,230 ft.

PECOS COUNTY

Allsman & Bell's No. 2 Pecos River Bed ..... Drilling 210 ft.

George Anderson's No. 1 Sherbino Brothers, CWL NW Sec. 43, Blk. C-4, G. C. & S. F. Sur. ..... Location.
Benedum & Trees' No. 1 J. C. Trees, C NW SE SE Sec. 30, Blk. 7, H. & G. Sur., elev. 2,556 ft. ..... Flowed sulphur water 3,250 ft.; drilling 3,310 ft.
Buell et al's No. 1 Batcheler, C N ½ NE Sec. 89, Blk. OW, G. C. & S. F. Sur., elev. 3,188 ft. ..... Show oil 1,700 ft.; flowed sulphur water 1 775 ft.; fishing 2,740 ft.
Buell & Hagan's No. 1 Jasper, 1 mi. S and W NE cor. Jasper Co. School Land No. 104 ..... Fishing bit 510 ft.
California Co.'s No. 1 I. G. Yates, 1 300 ft. out of SE cor. Sec. 34, Blk. 194, G. C. & S. F. Sur., elev. 2,490 ft. ..... 200,000 ft. gas at 550 ft.; cemented 6-in. 1,000 ft.; 15,000,000 ft. gas.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, I. & G. N. Sur. ..... Shut down 500 ft.
Diamond Petroleum Co.'s No. 1 Blackstone & Slaughter, Sec. 27, Blk. 2-A ..... Location.
Bob Elmore's No. 1 M. Holmes, Sec. 542, Blk. 1, I. & G. N. Sur., elev. 2,145 ft. ..... Cleaning out 515 ft.
Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 126, T. & S. L. Sur., elev. 2,562 ft. ..... Drilling 1,150 ft.; hole full fresh water at 650 ft.
Gulf Production Co.'s No. 1 Smith, NE cor. Sec. 28, Blk. 194 ..... Building road to location.
Geo. A. Henshaw, Jr., No. 1 Snyder, Sec. 29, Blk. 144, T. & St. L. Sur. ..... Location.
Kershaw & Livingston's No. 1 Cannon, SW cor. NE Sec. 54, Blk. A-2, T. C. R. R. Sur. ..... Location.
McMan O. & G. Co. and Marland Oil Co.'s No. 1 Yates, 330 ft. N and W of NE cor. Sec. 35, Blk. 194, but located in Sec. 34½, elev. 2,538 ft. ..... Drilling 490 ft.
Marland Oil Co.'s No. 1 Yates, NE cor. Sec. 60, Blk. 1, I. & G. N. Sur., elev. 2,172 ft. ..... Small show oil and gas 445 ft.; 10 boilers fresh water per hour at 465 ft.; drilling 495 ft.
Mazda Oil Co.'s No. 1 M. A. Smith, NE cor. NW Sec. 24, Blk. 194, G. C. & S. F. Sur., elev. 2,720 ft. ..... Drilling 600 ft.
Moutray Oil Co.'s (was Pecos Big 3 Oil Co.'s) No. 1 Robertson, Sec. 28, Blk. 10, H. & G. N. Sur., elev. 2,572 ft. ..... Drilling 1,060 ft.
Mid-Kansas and Transcontinental Oil Co.'s No. 2 Smith-Taylor ..... Building road to location.
Mid-Kansas and Transcontinental's No. 3 Yates-B ..... Drilling 75 ft.
Mid-Kansas and Transcontinental's No. 5-A ..... Drilling 1,050 ft.
Mid-Kansas and Transcontinental's No. 7 ..... Spudding.
Mid-Kansas and Transcontinental's No. 8 ..... Clearing location.
Olean Petroleum Co.'s No. 1 Arthur Harral, C SE Sec. 98, Blk. A-2, T. C. R. R. Sur. ..... Location.
Olean Petroleum Co.'s No. 1 G. A. Harral, C SW Sec. 82, Blk. B-3, G. C. & S. F. Sur. ..... Rig on ground.
Olean Petroleum Co.'s No. 1 Sherbino Brothers, C NW Sec. 31, Blk. C-4, G. C. & S. F. Sur. ..... Location.
Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addition Sur. Fort Stockton, elev. 2,980 ft. ..... Shut down 3,440 ft.
Quinby Oil Co.'s No. 2 Bennet, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. ..... Shut down 1,457 ft.
Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. N and 1,320 ft. E SW cor. Sec. 593, Abst. 3,009 ..... Shut down 700 ft.
Red Bank Oil Co.'s No. 1 Arthur Harral, C SE Sec. 35, Blk. C-4, G. C. & S. F. Sur. ..... Location.
Red Bank Oil Co.'s No. 1 McKenzie, C N ½ Sec. 21, Blk. 126, T. & St. L. Sur., elev. 3,256 ft. ..... Drilling 2,250 ft. in brown dolomite and anhydrite.
W. R. Shankel et al's No. 1 I. G. Yates, CSL SW SE SE Sec. 58, Blk. 1, I. & G. N. Sur., elev. 2,220 ft. ..... Top salt 425 ft.; 40 ft. oil 1,313 ft.; flowing sulphur water 1,478-78 ft.; plugging back.
Simms Oil Co.s No. 1 A. J. Dowlin, C NE Sec. 12, Blk. 105, G. C. & S. F. Sur. ..... Drilling 1,102 ft.
Texon O. & L. Co.'s No. 2 I. G. Yates ..... Rainbow show 1,075 ft.; show oil 1,243 ft.; total depth 1,754 ft.; plugged back to 1,340 ft.; shot 180 qts. 1,240-65 ft.; swabbed 50 bbls.; shut down.
Texon O. & G. Co.s No. 3 I. G. Yates ..... Location.
Transcontinental Oil Co.'s No. 1 Blackstone & Slaughter, Sec. 29, Blk. 129, T. St. L. Sur. ..... New location; moving in material.
World Oil Co.s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,245 ft. ..... Location.

PRESIDIO COUNTY

Headlock & Millers No. 1 Tootle est., Sec. 123, Blk. 3, D. & P. Sur., elev. 2,912 ft. ..... Salt water at 2,610 ft.; drilling 2,640 ft.

REAGAN COUNTY

Henshaw & Camps No. 1 University, Sec. 14, Blk. 48, University Land ..... Rig shut down.
Texon O. & L. Co.s No. 1-B University, Group 1 ..... Top pay 6,284 ft. (corrected); drilling 6,446 ft.; 1,600 ft. oil in hole and 200,000 ft. gas; gravity oil 38.7 degrees (corrected).
Marland Oil Co.s No. 1 University-Anderson, Sec. 19, Blk. 58, University Land ..... Location.

REEVES COUNTY

Deep Rock Oil Co.s No. 1 Caldwell, C SW Sec. 22, Blk. 58, T. & P. Sur., Twp. 8 ..... Hole full sulphur water 3,590 ft.; shut down 3,870 ft.
Exploration Co.s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land ..... Spudded 20 ft. and shut down.
Humble O. & R. Co.s No. 1-B Kloh, C NE Sec. 47, Blk. 56, T. & P. Sur. T-2-S, elev. 2,781 ft. ..... 900 ft. sulphur water 1,760-1,800 ft.; top salt 2,765 ft.; top Delaware 3,333 ft.; running 6-in. 3,340 ft.
David R. Thompsons No. 1 A. A. Eddins ..... Rig.
World Oil Co.s No. 1 Biggs, C SE Sec. 65, Blk. 112, Public School Land Sur., elev. 3,068 ft. ..... Shut down 1,610 ft.; tools moved to No. 1 Duff.
World Oil Co.s No. 1 Duff, elev. 2,753 ft. ..... Show gas with six bailers oil and hole full of water 2,648-50 ft.; set 6-in. 2,680 ft.; drilling 2,825 ft.

RUNNELS COUNTY

Noble Oil Co.s No. 1 Simms, Sec. 12, J. J. McHenry Sur. ..... Shut down 1,580 ft.; underreaming 10-in.

SCHLEICHER COUNTY

Beavers & Leath et als No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur. ..... Spudded and shut down.
Thomas Grey et als No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur. ..... Sulphur water 2,125 ft.; total depth 2,145 ft.; underreaming 8-in.

SCURRY COUNTY

Northwest Co.s No. 1 T. C. Stinson, NE NW SW, Sec. 101, Blk. 97, H. & T. C. Sur., elev. 2,225 ft. ..... Tested 8 bbls. 1,745 ft.; another pay at 3,402-07 ft.; bailed 70 bbls. oil in 4 hours and bailed dry; sulphur water 4,505-20 ft.; total depth 4,524 ft.; plugged back to 3,450 ft. and shot 140 qts. 3,380-3,425 ft.; no results.

STERLING COUNTY

Inland Oil Co.s No. 1 Durham, Sec. 12, Blk. T, T. & P. Sur. ..... Location.
L. Littles No. 1 Fisher Bros., Sec. 1, Blk. T, T. & P. Sur. ..... Shut down 1,436 ft.
Orr et als No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W. & N. W. Sur. ..... Drilling 300 ft.
J. P. Williams' No. 3 Clark ..... Drilling 550 ft.

STONEWALL COUNTY

J. P. Johnsons No. 1 R. P. Morrow ..... Spudding 280 ft.
R. F. Garland & Co.s (was McCamey & Zochs) No. 1 J. Ward, C SW Sec. 153, Mrs. Ward Dobbs Sur., 3 mi. NW of Aspermont ..... Cleaning out 2,630 ft.

TAYLOR COUNTY

A. J. Brown et als No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S. P. R. R. Sur. ..... Drilling 930 ft.
Dorning & Perrines No. 1 J. A. Hammer, C N 100 acres, Sec. 22, Blk. 19, T. & P. Sur., elev. 1,904 ft. ..... Shut down 455 ft.
Gilbert Johnsons No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. ..... Spudded and shut down.
W. E. Halbert et als No. 1 Hunt, C SE Sec. 124, Blk. 64, H. & T. C. Sur. ..... Drilling 2,500 ft.
Morrison & Thompsons No. 1 Mrs. Alice Rose, SW cor. NE Sec. 29, Blk. 19, T. & P. Sur., Sur. elev. 1,925 ft. ..... Shut down 2,540 ft.; fishing tools
Owen & Sloans No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur. ..... Total depth 2,275 ft.; cleaning out.
Roesor & Pendleton's No. 1 Sam Hutman, C W ½ NW Sec. 64, Blk. 5, T. & P. Sur. ..... Drilling 960 ft.
Sanger O. & R. Co.s No. 1 Ike Brown, NE cor. Sec. 54, Blind Asylum Land ..... Drilling 3,275 ft.
Sanger O. & R. Co.s No. 1 Stem ..... Location.
World Oil Co.s No. 1 J. R. Griffith, SW cor. NE Sec. 32, Blind Asylum Land, elev. 1,747 ft. ..... Water at 2,850 ft.; fishing tools 3,250 ft.

TERRY COUNTY

Kingsland Oil & Potash Co.s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur. ..... Drilling 2,075 ft.

TOM GREEN COUNTY

Camps No. 1 H. D. Wilkey, Sec. 4, B. A. L. Sur. ..... Small show oil 738-739 ft.; shut down.
Dullahan et al's No. 1 Jacobs, Sec. 1,011, H. E. & W. T. Sur. ..... Shut down for orders 632 ft.
Fitzgerald et al's No. 1 Bennett ..... Drilling 700 ft.
Marland Oil Co.'s No. 1 Llano, 3,500 ft. S and 13,000 ft. W of NE cor. Llano Co. School Land No. 964 ..... Drilling 3,265 ft.
Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 162, Blk. 11, S. P. R. R. Sur. ..... Shut down for casing 275 ft.

UPTON COUNTY

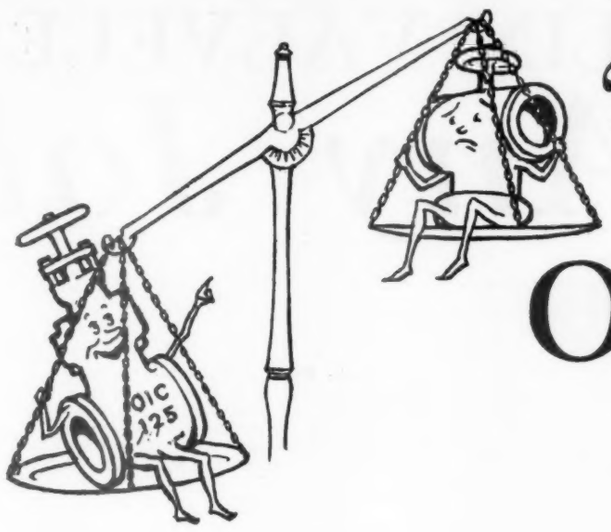
Champlin O. & R. Co.'s No. 1 J. F. Lane, SW cor. SE Sec. 3, G. C. & S. F. Sur. ..... New location; building rig.
Hults et als No. 2 Giddings, 5,336 ft. S. and 6,678 ft. E of NW cor. Throckmorton Co. School Land, League 1. ..... Spudded water well and shut down.
Levi Smith and Marland's No. 1 University, C E ½ Sec. 17, Blk. 5, University Land ..... Hole full salt water 630-40 ft.; drilling 1,760 ft.
Marland Oil Co.'s No. 3 Burleson, T. C. Jones Sur. No. 100 ..... First pay 2,205 ft.; second pay 2,295 ft.; 2,000 ft. sulphur water 3,390-95 ft.; 1,000 ft. sulphur water 4,135 ft.; fishing bit 4,610 ft.
Marland Oil Co.'s No. 34 Burleson, Sec. 100, T. C. Jones Sur. ..... Shut down 3,255 ft.
Simms Oil Co.'s No. 1 B. C. Clark, NE cor. SW Sec. 5, G. C. & S. F. Sur., elev. 2,473 ft. ..... Top salt 470 ft.; top lime 1,718 ft.; sulphur water 1,834-50 ft.; shut down 2,501 ft.
The Texas Company's No. 3 J. M. Perry, Sec. 3, G. C. & S. F. Sur. ..... Building rig.
Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E ..... Top salt 1,370 ft.; drilling 1,960 ft.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore est., Sec. 183, J. Mitchell Sur., elev. 953 ft. ..... Shut down 3,000 ft.
Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur. ..... Shut down 2,940
Douglas Oil Co.'s No. 1 Sellars, C SE Sec. 82, Blk. A, I. & G. N. Sur. ..... Total depth 3,020 ft.; rig rebuilt.
East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur. ..... Shut down 3,190 ft.; 25,000 ft. gas.
Hiawatha Oil Co.'s No. 1 Sellars, C Sec. 1,031, Blk. A, I. & G. N. Sur. ..... Hole full salt water 2,455 ft.; drilling 2,950 ft.
Magnolia Petroleum Co.'s No. 1 Whitehead, Sec. 81, D, G. C. & S. F. Sur., elev. 1,770 ft. ..... Fishing 1,260 ft.
Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur., elev. 1,175 ft. ..... Shut down 2,900 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; pulling 8-in.

WINKLER COUNTY

Atlantic O. P. Co.'s No. 1 Hendricks, Sec. 34, Blk. B-5, elev. 2,823 ft. ..... Cementing 6-in. at 2,548 ft. and shut down.
V. T. Bolin's No. 1 Ida Hendrick, C SE NE Sec. 4, Blk. B-5 ..... New location.
Champlin Drilling Co.'s No. 1 C. W. Cowden, C SW Sec. 21, Blk. C-23, Public School Land, elev. 2,889 ft. ..... Hole full water 2,385 ft.; shut down at 3,505 ft.; contract depth.
Cranfill Brothers' No. 1 M. J. Bashara, at cor. Secs. 10, 11, 22 and 23, School Blk. 77 ..... New location.
Group 1 Humble O. & R. Co.'s No. 1 T. G. Hendricks, C SE Sec. 36, Blk. 27, elev. 2,823 ft. ..... Drilling 1,360 ft.
Humble O. & R. Co.'s No. 1 T. G. Hendricks, NW cor. NE Sec. 34, Blk. B-5, Public School Land, elev. 2,816 ft. ..... Top salt 1,480 ft.; cementing 8-in. at 2,327 ft. and pulling big pipe.
Humble O. & R. Co.'s No. 2 T. G. Hendricks, SE cor. NE Sec. 34, Blk. B-5 ..... New location; building rig.
Independent O. & G. Co.'s No. 1 Hendricks-A, elev. 2,816 ft. ..... Top salt 1,785 ft.; 250,000 ft. gas 2,555-75 ft.; set 8-in. 2,595 ft.; Straightreaming 8-in. 1,430 ft. shut down.
Independent O. & G. Co.'s No. 2 Hendricks-A, elev. 2,822 ft. ..... Hole full salt water 1,940 ft.; shut down 2,010 ft.
McCullough Oil Co.'s No. 1 Tobe Morton, CEL Sec. 20, Blk. L-12, Public School Land, elev. 2,750 ft. ..... Shut down for 10-in. 1,510 ft.
R. S. Matthews et al's No. 1 State, C Sec. 7, Blk. A-57, Public School Land Sur., elev. 3,120 ft. ..... Top salt 1,387 ft.; drilling 1,670 ft.
Murchison Oil Co. and Marland's No. 1 Grisham-Hunter, NW cor. SW Sec. 35, Blk. B-5 ..... 2,000,000 ft. gas 2,640 ft.; cementing 6-in. 2,669 ft.
Pure Oil Co.'s No. 1 Hendricks, SW cor. Sec. 41, Blk. B-5, Public School Land, elev. 2,823 ft. ..... Top salt 1,518 ft.; top lime 2,390 ft.; cemented 8-in. 2,479 ft. and built standard rig.
Pure Oil Co.'s No. 2 Hendricks, elev. 2,827 ft. ..... Building rig; new location.
Pure Oil Co.'s No. 1 Hendricks-B, NE cor. SE, Sec. 34, Blk. B-5 ..... Top salt 1,115 ft.; hole full water 1,321 ft.; 10-in. set 1,570 ft.; top pay 2,990 ft.; second pay 3,124-28 ft.; swabbed 115 bbls. July 17; total depth 3,435 ft.; 200 ft. sulphur water in hole.
Roxana Petroleum Corp. and Llano Oil Co.'s No. 1 Scarborough, C Sec. 1, Blk. C-22, Public School Land, elev. 2,921 ft. ..... Top salt 1,870 ft.; little gas 2,630-40 ft.; shut down for orders 2,735 ft.; making 2,000,000 ft. gas and 1 bbl. oil; top lime 2,630 ft.
Southern Crude Oil Pur. Co.'s No. 3-C Hendricks, SE cor. NE Sec. 33, Blk. B-5, elev. 2,816 ft. ..... Cemented 8-in. 2,525 ft.; drilling ahead 2,595 ft.
Southern Crude Oil Pur. Co.'s No. 4-C Hendricks ..... Top lime 2,630 ft.; drilling 2,883 ft.; hard brown lime.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks A-1, SE cor. NE Sec. 44, Blk. 26, elev. 2,854 ft. ..... Drilling 2,400 ft.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks-B (was No. 1-D), SE cor. NE NW Sec. 4, Blk. B-12 ..... Cemented 6-in. 2,529 ft.; standardizing.
Southern Crude Oil Pur. Co.'s No. 1-F Hendricks, Sec. 33, Blk. B-5, NE cor. SE ..... New location; building rig.
Southern Crude Oil Pur. Co.'s No. 1 T-89 Grisham-Hunter-A, CWL NE SW Sec. 35, Blk. B-5 ..... Top lime 2,340 ft.; set 6-in. 2,340 ft.; 3,000,000 ft. gas 2,460-70 ft. and 2,500-20 ft.; more gas 2,573 ft.; shut down, repairing engine, 2,620 ft.; making 10,000,000 ft. gas.
Texon O. & L. Co.'s No. 1 Central State Bank, SW cor. W ½ SE Sec. 41, Blk. B-5, elev. 2,826 ft. ..... Swedging 10-in. at 1,710 ft.
White Eagle O. & R. Co.'s (was Gibson & Johnson's), No. 1 R. A. Lock, 1,320 ft. W of NE cor. Sec. 30, Blk. 74, NW of discovery well, elev. 2,830 ft. .....



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more strength more safety longer wear

WHEN we say "extra metal" we mean extra metal intelligently placed to make a correctly-proportioned, properly balanced Valve.

That's the O. I. C. Plan, and all O. I. C. Valves are built like that. For example, our 4 inch Standard Iron Body Gate Valve shown here, weighs 100 pounds—in other words 10 or more pounds heavier than some manufacturers think necessary.

Buying valves on a "performance basis" rather than on price alone has always been sound business practice—today it is better than it ever has been before. O. I. C. Valves do give that extra margin of value, which is one explanation for their fast-growing popularity throughout the Oil Industry.

We build a complete line of 125 pound Gate Valves, in all sizes from 2 to 16 inches inclusive. Standard, medium and extra-heavy, for steam, cold oil, water or gas. Outside stem and yoke and stationary spindle, in screwed and flanged type: casing threads furnished when requested. Complete information will be gladly furnished upon request to our Distributors or to Headquarters at Wadsworth.

THE OHIO INJECTOR COMPANY
WADSWORTH, OHIO

OIC

FRANKLIN VALVELESS
For Any Job

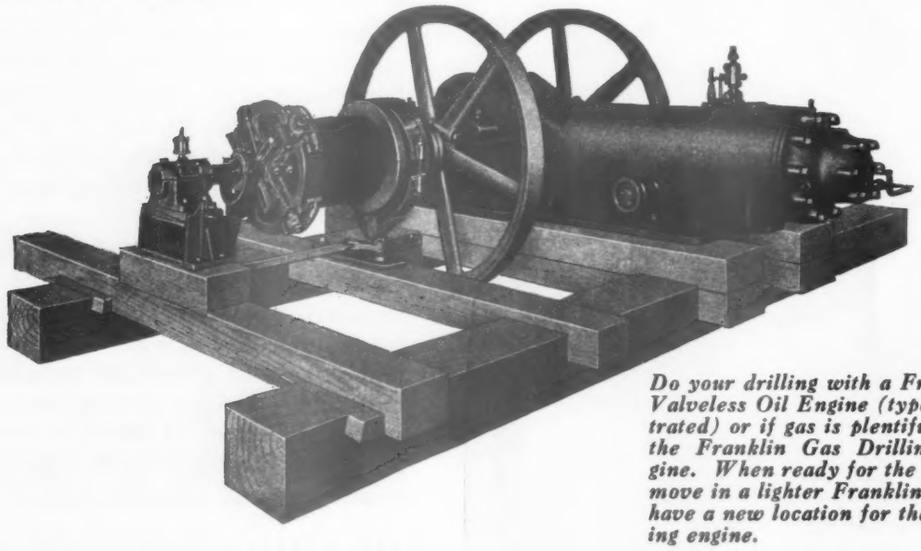
Two of the Franklin Valveless Drilling Engines on location at McCamey, Texas. Gibson Brothers, the Drilling Contractors, have four Franklins in service at McCamey. State they have given wonderful service and expect to buy more.

Drilling

If it's speed and economy you're after, take a tip from veteran contractors and hitch your tools to a Franklin Valveless.

This dependable, flexible power plant is making a name for itself and a reputation for its users in every worth while field. By *speed* we don't mean number of revolutions per minute, but one-truck transportation, easy installation, quick starting and absolute dependability month after month with the least amount of attention. Those are the advantages that *count,* whether you're contractor, superintendent or owner.

As for expenses—a Franklin Valveless (oil or gas) costs less to run than a flivver, and repair costs aren't worth mentioning.



Do your drilling with a Franklin Valveless Oil Engine (type illustrated) or if gas is plentiful with the Franklin Gas Drilling Engine. When ready for the pumps move in a lighter Franklin if you have a new location for the drilling engine.

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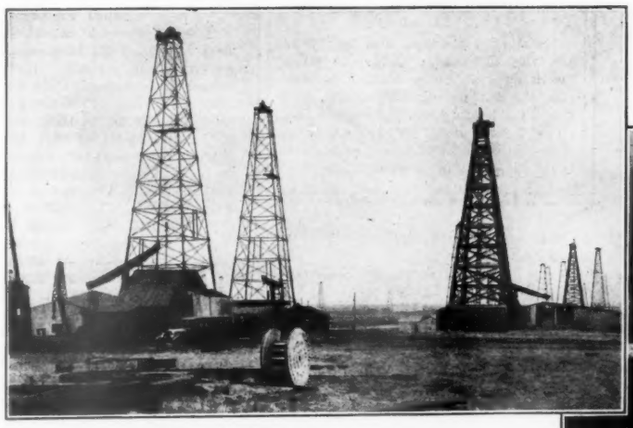
OIL WELL

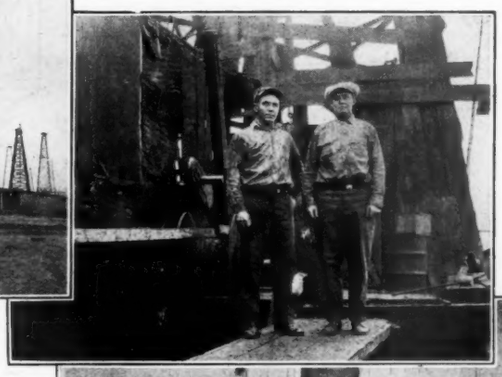
BRANCH STORES IN A

OIL AND GAS ENGINES
In Any Field



T. B. Slick—Endicott Lease, Tonkawa, Okla. Seven Franklins in service.

J. R. Lawson—Tool dresser
W. C. Milam—Driller
on Endicott 2 E Well.



T. B. Simmons, Tool dresser, and Geo. I Miller, Driller, with 40 H.P. Franklin Gas Engine.

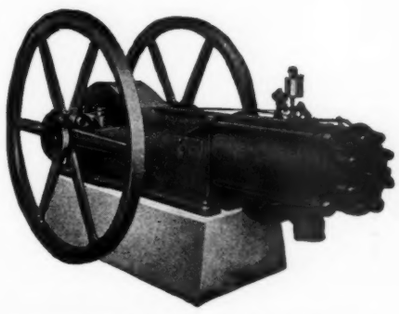
Pumping

When T. B. Slick of Tonkawa, Okla., was through drilling, he found it economical to transfer those power plants to new locations and replace them with light Franklin Gas Pumping Engines. The pumpers were installed right on the old foundations without so much as changing a single bolt hole!

Swabbing

Just because Franklin Pumping Engines are light and economical, don't get the idea that they aren't powerful. T. B. Slick, whose lease and crews are shown above, has seven 40 H.P. Franklins in this field, and four of them have been used continuously on swabbing jobs for the past year. Mr. Slick reports—"no trouble, no repairs to date."

FRANKLIN VALVELESS
ENGINE COMPANY
Franklin, Penna.



PUMPING ENGINES

25-30 H.P. and 40 H.P. Franklin Gas Engines are ideal for pumping and powerful enough to stand up under swabbing. These engines can each be mounted on the same block as the Drilling Engine without so much as changing a bolt.

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SUPPLY CO.

RESIN ALL OIL FIELDS

New Fields Are Opened in California

Goleta and Round Mountain in the San Joaquin Region Were Discoveries of First Half of the Year

By L. P. Stockman
Staff Correspondent, California Fields

The outstanding development in California during the first half of the current year was the discovery of two new oil fields, the rapid rise of Seal Beach to a field of the first water and the substantial drop in production which took place at Huntington Beach. Ordinarily the discovery of two new fields within a few months of each other would tend to demoralize the industry but in this instance neither will exert any appreciable effect on production during 1927 due principally to the fact that the potential productive acreage is all held in large blocks.

The current year started off rather auspiciously when the Goleta district was opened up by E. J. Miley during the latter part of February and this discovery was followed up three months later by the completion of a commercial producer in the Round Mountain area located 16 miles northeast of Bakersfield in Kern County. By a strange coincidence one turned out to be a high gravity field while the other is strictly of the fuel oil type. Both are still in the exploratory state and hence the importance of each is still conjectural.

Goleta, the high gravity field, is located some 12 miles west of Santa Barbara and about 35 miles northwest of the Ventura Avenue Field in a low hilly country and within a stone's throw of the Pacific Ocean. Two zones have been logged, one at 616-60 feet and another at 1,300 feet. The first, which is nothing more or less than a heavy tar deposit, has not yet been found productive but the second sand has been found highly satisfactory. It is in this horizon that the Miley Exploration Co. finished its No. 2 Tecolote as a 440-bbl. well at 1,339 feet.

Drilling operations since completion of the discovery well have been more or less of a rather sporadic nature due to the fact that this acreage is closely held and also because of the desire of operators to hold back development until a more opportune time. The Santa Barbara Oil Co. (Transcontinental) was the second concern to get production in this field which yields an olive oil colored crude testing around 42 degrees A. P. I. and having a gasoline content of from 55 to 65 per cent. The natural gas produced in this field is also of a high grade and exceedingly rich, having a gasoline saturation of around 5 gallons per 1,000 feet. The California Eastern has 200 acres which look good for production and this company's first well should be finished during the early part of August. The total potential productive acreage is all held in large blocks by responsible operators and for this reason Goleta will be developed in an orderly manner. Acreage in the Round Mountain Field is also closely held and this, together with the fact that the oil yielded by this district is of a heavy nature, practically precludes the drilling of any large number of new wells or the development of substantial production in the immediate future. The Elbe Oil Co.'s discovery well, No. 1 Barnes, completed during the month of May, came in doing 500 bbls. of 42.1 gravity oil daily from 2,074 feet. Only a few wells have been started subsequent to completion of the discovery due to the undesirability of this heavy oil and the absence of adequate pipe line facilities. The present scope of wildcat operations and the showings already found in several tests indicates the possibility of at least two more new fields being opened up before the close of 1927, unless future work is retarded. Ventura, Santa Barbara, San Luis Obispo and Kern Counties are all showing an increased amount of prospecting and these areas will no doubt continue to grow in importance.

California Production

California produced a total of 116,184,628 bbls. of crude during the first half of 1927, notwithstanding the fact that a substantial curtailment was in effect during the entire period. The actual production during 1927 by months shows a downward trend starting off with 651,125 bbls. during January and winding up with an average of 639,381 bbls. during June. One must remember, however, that operators continued to increase the amount of shut in production during the entire period in question. The total potential production is really the correct criterion to follow for these figures give the true condition which would have existed if there had not been any production restricted. For instance, take the month of January, 1927. The actual daily average output during that month was 651,125 bbls. A total of 54,769 bbls. per day was shut in, however, and the total possible production with everything wide open would have approximated 705,894 bbls. per day. The daily curtailment during the month of June was 84,372 bbls. which added to the actual production during that period would bring the total potential production to 723,753 bbls. And so by following the total potential production curve which includes the oil shut in we find that the actual trend has really been up instead of down, as is shown by actual production figures.

CALIFORNIA STATISTICS

Statistics covering the half year in the California fields, together with data on other similar periods for the purpose of comparison, will be found on pages 105 and 178. The figures cover field operations, production, shipments of crude and refined oils and stocks.

The year of 1927, which started off with a total of 54,769 bbls. per day shut in during January and closed the semi-annual period with 84,372 bbls. shut in during June, showed an average daily curtailment of 65,639 bbls., a considerable part of which was light refinable crude. The substantial increase in curtailed production between January and June is due to the action of producers in extending their curtailment policy to include the Ventura Avenue and Brea Olinda fields effective May 1. Heretofore a large part of the oil shut in has been of a heavy fuel oil type with a low gasoline content. At present, however, this is not strictly so for about one-half of the present shut in of 84,372 bbls. is over 20 degrees in gravity.

Output Easing Off

The production situation during the first half of 1927 is somewhat analogous to conditions existing during the corresponding period of 1924 in that production is easing off slightly following the development of prolific town lot areas, although a part of this downward trend during the past two months has been due to additional curtailment measures initiated in the Ventura Avenue and Brea Olinda fields. In 1924 it was Santa Fe Springs and Huntington Beach, both of which reached their peak in 1923 and registered substantial declines during the following year. Huntington Beach again entered the picture in 1926 as a result of an intensive drilling program undertaken in the town lot area paralleling the ocean front and extending over an area of approximately 15 square blocks. This field, together with Seal Beach, which showed its first commercial production in August of last year, caused production curves to swing up again during the latter part of 1926. This excessive production continued over into 1927 and, while the Huntington Beach Field declined over 30,000 bbls. per day during the current year to date, Seal Beach, due principally to extensive drilling in the Alamitos Heights town lot section, climbed from a low of 10,000

(Continued on Page 207)

CALIFORNIA PRODUCTION

Daily Average Production of All Fields From January to June, 1927, Inclusive, Over a Period of 10 Years

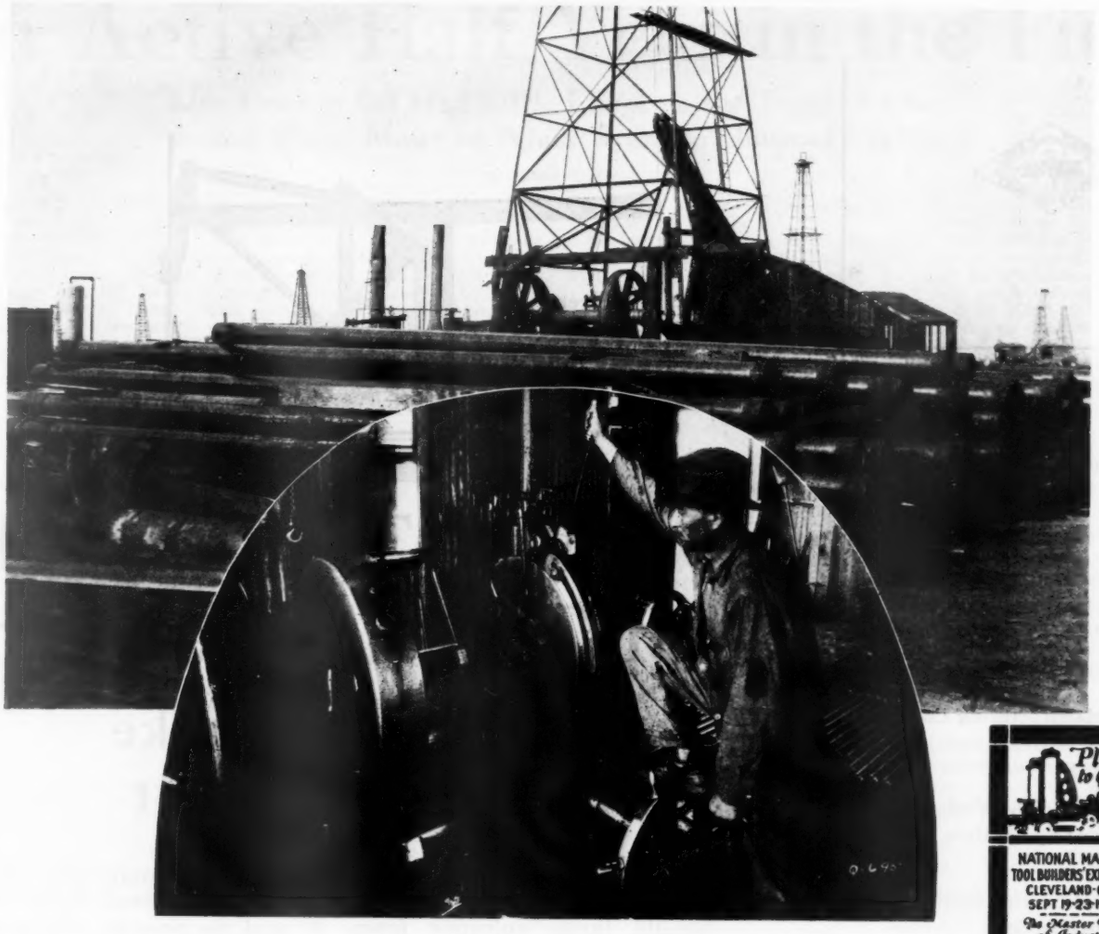
District—	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Kern River	22,617	21,268	20,841	21,048	20,150	20,151	18,820	17,676	11,958	13,954
Mount Poso	.....	.....	.....	.....	.....	.....	.....	.....	17	143
Round Mountain	.....	.....	.....	.....	.....	.....	.....	.....	.....	33
McKittrick	8,323	7,997	7,247	6,812	6,821	*6,008	5,724	5,762	5,449	5,188
Midway-Sunset	98,028	89,302	84,609	86,156	84,130	*78,103	*98,103	*103 452	93,429	*90,118
Elk Hills	.....	601	7,121	56,136	37,173	*22,502	*34,977	*37,417	32,868	*30,063
Lost Hills-Belridge	15,694	13,319	11,602	10,943	8,580	*6,458	*3,612	*4,984	4,507	4,374
Coalinga	45,552	45,367	43,263	41,038	33,264	*13,630	*29,370	*21,828	20,375	*19,894
Wheeler Ridge	.....	.....	.....	.....	.....	218	885	947	980	1,055
Watsonville	50	50	50	51	51	58	57	58	58	57
Santa Maria	20,417	17,365	15,802	15,309	12,387	*8,525	*7,871	*7,459	5,235	*5,014
Summerland	99	99	98	98	114	144	146	137	128	138
Goleta	.....	.....	.....	.....	.....	.....	.....	.....	.....	174
Ventura Avenue	49	75	219	371	1,090	3,927	4,382	14,271	31,244	*47,575
Ventura-Newhall	3,358	4,676	5,240	5,496	6,151	6,420	5,889	6,252	6,019	5,971
Los Angeles-Salt Lake	3,740	3,629	3,759	3,532	3,454	3,309	2,694	2,040	1,845	1,779
Whittier	3,031	2,772	2,397	2,091	2,052	1,808	2,033	2,023	2,121	1,900
Fullerton (Brea Olinda)	11,862	11,872	13,030	16,877	14,274	*11,200	*10,957	*11,579	16,669	*21,537
Coyote	32,461	29,721	24,718	20,814	20,111	*11,217	*10,840	20,421	16,887	14,476
Santa Fe Springs	.....	.....	.....	.....	7,044	172,117	88,957	51,303	49,090	43,435
Montebello	13,337	32,291	31,471	25,683	20,742	*11,802	17,079	18,947	17,919	16,182
Richfield	.....	831	4,417	18,337	24,729	*17,942	*12,795	*11,115	13,178	21,107
Huntington Beach	.....	.....	.....	3,457	20,415	101,027	54,308	42,239	44,800	80,110
Long Beach	.....	.....	.....	.....	14,735	148,659	189,380	114,395	109,755	93,202
Torrance	.....	.....	.....	.....	72	3,343	44,425	39,002	29,638	24,419
Domingues	.....	.....	.....	.....	.....	.....	5,423	45,130	21,549	17,449
Rosecrans	.....	.....	.....	.....	.....	.....	220	16,321	19,459	10,956
Inglewood	.....	.....	.....	.....	.....	.....	.....	14,592	52,943	37,066
Newport	.....	.....	.....	.....	.....	.....	.....	82	99	44
Seal Beach	.....	.....	.....	.....	.....	.....	.....	.....	.....	34,391
Total	278,618	281,235	275,884	334,229	337,529	648,568	648,947	609,432	608,219	641,904
Shut in	.....	.....	.....	.....	.....	115.402	24,172	56,783	25,765	65,639
Potential output	278,618	281,235	275,884	334,229	337,529	763,970	673,119	666,215	635,197	707,543

*Additional production shut in.

CALIFORNIA PRODUCTION OF CRUDE BY DISTRICTS

JANUARY TO JUNE, 1927, INCLUSIVE

Districts—	Production of Crude Oil— January	February	March	April	May	June	Total	Daily
Kern River	410,327	384,829	406,020	418,502	436,010	469,917	2,525,605	13,954
Mount Poso	6,983	5,807	5,165	3,837	2,329	1,835	25,956	143
Round Mountain	.....	.....	.....	.....	600	5,400	6,000	33
McKittrick	163,990	144,100	159,572	157,981	157,529	155,847	939,019	5,188
Midway-Sunset	2,804,775	2,508,363	2,747,956	2,765,445	2,795,270	2,689,538	16,311,347	90,118
Elk Hills	1,064,069	958,011	1,037,339	861,597	770,144	750,365	5,441,525	30,063
Lost Hills-Belridge	149,377	131,711	150,937	127,175	118,604	113,918	791,722	4,374
Coalinga	616,785	556,294	608,235	620,227	622,112	595,264	3,618,917	19,994
Wheeler Ridge	32,641	29,155	34,671	31,482	31,784	31,167	190,900	1,055
Watsonville	1,733	1,610	1,782	1,725	1,782	1,725	10,358	57
Santa Maria	143,862	138,835	151,587	152,057	154,352	166,894	907,587	5,014
Summerland	4,260	3,653	4,095	4,565	4,185	4,215	24,973	138
Goleta	.....	1,320	8,434	5,686	5,019	11,060	31,519	174
Ventura Avenue	1,672,863	1,420,663	1,582,268	1,552,439	1,258,003	1,124,917	8,611,143	47,575
Ventura-Newhall	170,731	169,466	186,107	187,252	188,333	178,787	1,080,676	5,971
Los Angeles-Salt Lake	53,827	51,292	54,935	54,449	54,078	53,483	322,064	1,779
Whittier	60,992	50,568	59,783	55,894	63,436	53,246	343,919	1,900
Fullerton (Brea-Olinda)	781,596	687,850	752,615	677,683	491,396	507,081	3,898,221	21,537
Coyote	475,109	415,475	439,132	435,557	442,606	412,259	2,620,138	14,476
San a Fe Springs	1,385,438	1,242,663	1,343,482	1,299,386	1,330,515	1,260,192	7,861,676	43,435
Montebello	542,255	464,513	506,456	483,650	476,221	455,786	2,928,880	16,182
Richfield	630,989	592,107	637,333	643,656	656,686	659,653	3,820,424	21,107
Huntington Beach	2,869,859	2,348,506	2,407,779	2,304,611	2,384,783	2,194,400	14,499,937	80,110
Long Beach	2,869,492	2,607,046	2,933,300	2,801,022	2,854,887	2,803,829	16,869,576	93,202
Torrance	799,286	702,369	752,150	727,090	738,577	700,283	4,419,755	24,419
Domingues	572,391	519,610	566,911	514,956	508,025	477,430	3,158,323	17,449
Rosecrans	371,085	329,345	336,596	349,663	215,819	286,510	1,983,017	10,956
Inglewood	1,326,347	1,071,948	1,154,475	1,114,072	1,110,955	1,031,140	6,708,937	37,066
Newport	1,005	1,347	1,246	1,625	1,471	1,164	7,858	44
Seal Beach	312,905	444,257	806,372	1,140,542	1,530,543	1,990,137	6,224,756	34,391
Total	20,184,873	17,982,711	19,835,724	19,493,825	19,506,054	19,181,442	116,184,628	641,904



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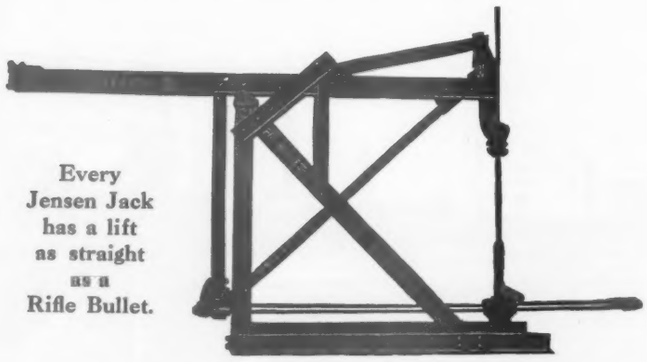

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Jensen Titan Jack of Titan Strength

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Other Jensen Jacks include designs suitable for every type of well, regardless of the depth, the size of the tubing, or the nature of the fluid.

Please call on our engineering department for techincal cooperation and information based on extensive experience in Power building and the installation of Pumping Power equipment. Jensen Jacks can be furnished by the Frick-Reid Store in your field for wells typical of the locality.

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East of the Mississippi—Frick & Lindsay Co.

An Active Half Year in the Field

Low Price of Oil Had Little Effect on the Total of Producing Wells, Many of Which Went to Unusual Depths

By James McIntyre

In spite of the fact that a tremendous overproduction grew out of the field operations of the last half of 1926 and the first half of 1927, 12,738 new wells were completed in the United States in the first half of this year, or only 257 fewer than were drilled in the first half of last year when the crude market averaged about a dollar a barrel higher. This year's work represented an increase of 658 completed wells over that of the first half of 1925 and 1,790 more wells than in the first half of 1924.

The fact that many of the wells completed this year were finished at great depths—those in the new California deep fields and in the Seminole area in Oklahoma in particular—more than makes up in work for the slight falling off in the number of wells finished as compared with results last year.

In other words, the 12,738 completions of the first half of 1927 represent a greater expenditure of capital than the 12,995 wells finished in the first half of 1926.

In results of drilling, the initial production of the 12,738 completed wells showed a marked improvement over that of last year in barrelage. A total of 2,340,422 bbls. as against 1,317,432 bbls. in the first half of last year indicates a gain of 1,022,990 bbls. Out of the total of completions there were 8,253 oil wells, a decline of 11, as compared with the same period in 1926; 3,384 dry holes, a decrease of 260; and 1,101 gas wells, an increase of 14. This year's oil wells averaged 283.58 bbls. the first 24 hours, as against 157.86 bbls. initial production for the wells finished in the first half of last year.

Not a Record

It is a noteworthy fact that the big initial production registered this year was over 300,000 bbls. less than that brought to the surface in the first half of 1925 when Arkansas alone showed 984,644 bbls. of new production, most of which came as a result of the discovery of big production in the sand below the Nacatoch.

Oklahoma Led in Results

The development of the Seminole area, which included the discovery of the Bowlegs Pool, south of the Seminole City Pool, in January and the subsequent development of that pool along with Seminole City, Searight and Earlsboro resulted in a very large initial production, giving Oklahoma a record-breaking total of 963,276 bbls. for the six months. There were 2,365 completions in Oklahoma, or only 180 less than in the same period last year, but the amount of footage drilled more than offset the decline in the number of wells drilled. Shallow drilling in the old fields of the State was at a low ebb during the period, the bulk of the work done having been in the deep areas where 2,900 feet would be called shallow and 4,200 feet became a matter of expensive routine.

The average Oklahoma oil well this year had an initial production of 692.51 bbls., as against 255.96 bbls. in the first half of last year.

West Texas

Another notable spot was the West Texas area, where 465 wells were completed, as against 132 in the same period last year. West Texas oil wells averaged 477.97 bbls. in initial production. The Texas Panhandle saw the completion of 532 wells, of which 458 were oil wells averaging 275.09 bbls. in first-day production, which compared unfavorably with the average initial production of 599.27 bbls. in the first half of last year from 125 new oil wells.

North Central Texas had a busy half year and while the number of completions, 2,203, was 352 fewer than in the first half of 1926, the average production per oil well was 127.33 bbls. as against 81.79 bbls. last year.

The Gulf coastal fields were unusually active because of deep sand drilling following the sensational discoveries in the Spindletop area. A total of 599 wells were completed, of which 368 were oil wells, averaging 859.90 bbls. initial production, which was the best record shown by any producing division, the average for Oklahoma having been 692.51 bbls., and California 591.60 bbls., and the average for the United States having been 283.58 bbls.

The drilling of wells to the Dakota and Lakota sands in the Salt Creek Field in Wyoming was responsible for a large initial production. The wells were shut in after they proved what they could do in the way of production, and were opened only when there was a need for the crude. Wyoming completed 173 wells, of which 144 were oil wells and the average initial production was 775.21 bbls. as against 271.07 bbls. in the same period last year.

The California fields experienced a half year of great activity. New discoveries and the development of pools opened last year resulted in the completion of 702 wells of which 531 were oil wells averaging 591.60 bbls. initial production. This was an increase of 66 in completions and 35 in new oil wells and 180 bbls. per well in initial production.

An Eastern Rennaissance

Back in the old Allegany and Bradford Fields, located in Cattaraugus and Allegany Counties in New York and McKean County, Pennsylvania, where the Richburg and underlying Bradford sand are being "flooded," the first half of this year was the most active in 45 years. A total of 227 wells were completed in the Allegany and 907 wells in the Bradford district, a total of 1,134 wells for the two pools and only 1 dry hole was recorded.

No New Producing States

No new states were added to the production column in the half year. The bulk of the work was in the development of areas opened in the last half of 1926. The Seminole area in Oklahoma was opened in July last year and the Earlsboro Pool came in late in the same half year. Bowlegs (a Seminole pool) was opened and partly developed this year and a new pool was opened in June in Township 7-6, which has been called the Little River Pool. Only one well, a 12,000-bbl. producer has yet been drilled there. These new pools of 1927 spread the Seminole Field out so that it occupies parts of Townships 10-6, 9-6, 8-6, and 7-6. The Pearson Pool in Pottawatomie County in Township 7-5 has thus far not come up to expectations. One of the most important developments of the year in Oklahoma was the discovery of a Wilcox sand pay at 5,985 feet, Section 30-19-4w, in Logan County, Oklahoma, by the Roxana Petroleum Corp., the first well showing a flush production of 2,800 bbls. The Roxana Petroleum Corp. has enough acreage around this discovery to give it years of development work if the pool extends to the limits of the company's leases.

New Pools in West Texas

The west Texas country was featured by the partial development of the Yates Pool in Pecos County, where 10,000-bbl. wells were found between 1,000 and 1,200 feet in depth. The Church-Fields and the Gulf-McIlroy Pools in Crane County were joined by the drill making a continuous pool 6¼ miles long by 2 miles wide. Winkler County gave a positive evidence that all its buried oil is not in one place, and Ector County was added to the producing list. Crockett County, which had looked like an expensive "flop" gave evidence of real worth when a 700-bbl. well was opened up in May. Glasscock County showed a 230-bbl. discovery well and Howard County supplied a new pool in the course of the half year. A deeper pay was found in Jones County, but Reagan County, in which the Big Lake Pool is situated, failed to show any other very productive new spots.

The Texas Panhandle and southwest Texas were noteworthy for their gas discoveries and the developments of the wonderful gas resources they possess. In both these fields there was a notable falling off in new oil production.

In California the Seal Beach Field overshadowed all others in results in that state. A total of 111 oil wells were completed in that pool alone with a total initial production of 159,919 bbls., but 133 oil wells were completed in the Huntington Beach Field. At the close of the half year there were 212 wells drilling in Seal Beach, which led in new work.

SUMMARY OF COMPLETED WORK IN ALL THE FIELDS OF THE UNITED STATES IN THE FIRST SIX MONTHS OF 1927 AND IN THE SAME PERIOD OF 1926

	First 6 Mo.	Comp.	Initial Prod'n.	Dry Holes	Gas Wells	Oil Wells	Av. In. Prod'n Barrels
Eastern	1927	2,325	14,134	211	359	1,755	8.06
	1926	1,983	11,977	237	390	1,356	8.83
Central Ohio	1927	179	1.838	48	91	40	40.00
	1926	198	2,020	49	114	35	57.53
Michigan	1927	138	2,860	11	2	125	22.88
	1926	11	247	1	0	10	24.70
Lima	1927	126	1,132	15	7	104	10.88
	1926	217	3,108	14	9	194	16.02
Indiana	1927	127	1,704	55	15	57	29.90
	1926	67	830	27	4	36	23.06
Kentucky	1927	525	12,453	108	18	399	31.21
	1926	631	7,145	147	20	464	15.40
Tennessee	1927	23	2,205	1	0	22	100.23
	1926	18	1,855	7	1	10	185.50
Mississippi	1927	3	....	3	0	....	....
	1926	1	....	1	0	....	....
Alabama	1927	....	....	..	..	....	....
	1926	2	....	2	..	....	....
Georgia	1927	....	....	..	..	....	....
	1926	5	....	5	..	....	....
Florida	1927	1	....	1	0	....	....
	1926	0	....	0	0	....	....
Illinois	1927	67	1,230	20	5	42	29.29
	1926	148	3,142	52	2	94	33.33
Kansas	1927	770	62.726	331	40	401	156.42
	1926	1,209	88,401	390	54	765	115.56
Oklahoma	1927	2.365	963.276	727	247	1,391	692.51
	1926	2,545	380,359	789	270	1,486	255.96
North Central Texas	1927	2,203	189.594	675	39	1,489	127.33
	1926	2,555	118,295	1,073	48	1,434	81.79
West Texas	1927	465	168,725	110	2	353	477.97
	1926	132	43,098	45	0	87	495.38
East Central Texas	1927	41	1,800	39	1	1	1,800.00
	1926	49	2,468	34	4	11	224.36
Texas Panhandle	1927	532	125,993	34	40	458	275.09
	1926	142	74,909	8	9	125	599.27
Gulf Coast	1927	599	316 445	222	9	368	859.90
	1926	569	191,264	206	3	360	531.29
Southwest Texas	1927	519	7.076	222	109	188	37.64
	1926	243	38,721	33	46	164	236.10
North Louisiana	1927	372	12.426	166	73	133	93.42
	1926	482	48,033	107	46	329	145.96
Arkansas	1927	211	7 266	78	28	105	69.20
	1926	599	55,817	133	42	424	131.65
Montana	1927	158	11,838	57	8	93	127.29
	1926	150	24,143	45	12	93	259.60
Wyoming	1927	173	111,631	24	5	144	775.21
	1926	237	52,859	32	10	195	271.07
Colorado	1927	59	7,737	30	2	27	286.55
	1926	50	7,950	25	3	22	361.36
New Mexico	1927	50	2,192	23	0	27	81.18
	1926	115	5,860	42	0	73	80.28
Utah	1927	5	....	4	1	0	....
	1926	1	400	0	0	1	400.00
California	1927	702	314,141	171	..	531	591.60
	1926	636	154,531	140	..	496	311.56
Total—							
First 6 months	1927	12,738	2,340,422	3,384	1,101	8,253	283.58
First 6 months	1926	12,995	1,317,432	3,644	1,087	8,264	157.86
Difference		257	1,022,990	260	14	11	127.72
First 6 months	1925	12,080	2,666,746	3,069	1,085	7,926	336.46
First 6 months	1924	10,940	1,707,093	2,457	1,114	7,369	231.66
First 6 months	1923	12,013	2,587,763	3,014	1,108	8,801	294.03

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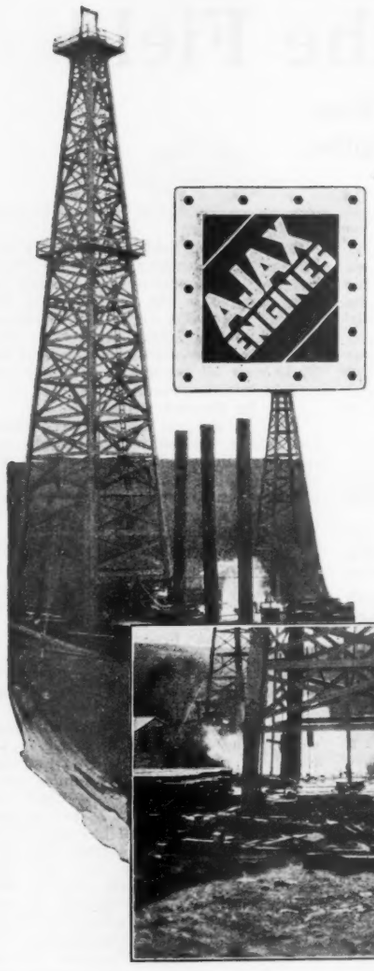

Three views of the Boiles No. 7 Well, Cushing, Okla., drilled by E. W. Metz with a 12x12 Ideal-Ajax. New England Oil & Pipe Line Co., owner.

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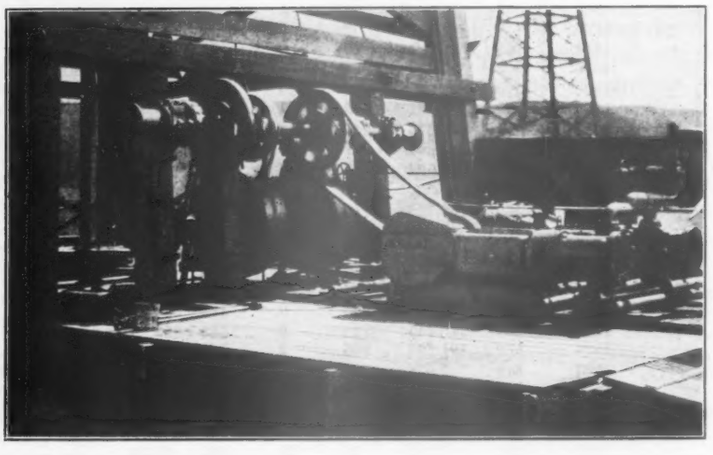

Showing the 12x12 Ideal-Ajax at Boiles No. 7, equipped with Ajax-Greenwood Safety Throttle Valve and Ajax-Carson Lubricator.

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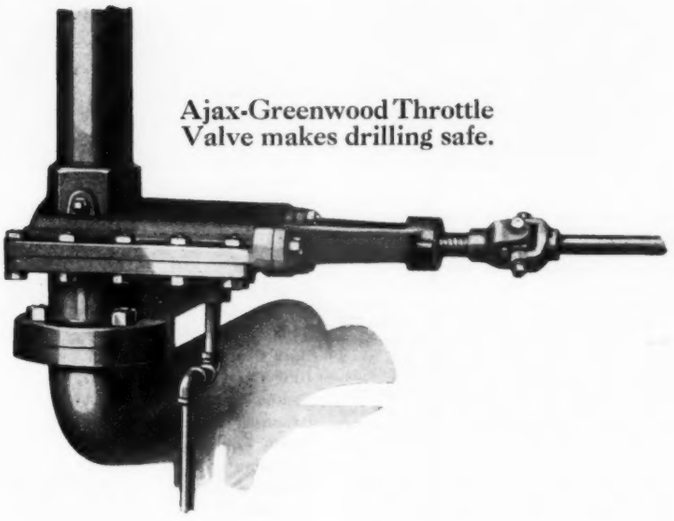

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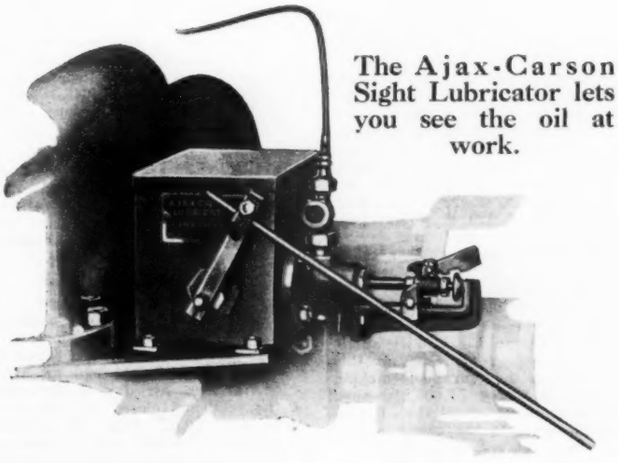

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Country Produced 444,522,797 Bbls.

Greatest Six Months Crude Oil Output in History May Be Exceeded in the Last Half of the Year.

By James McIntyre

It is doubtful if there is a man engaged in the oil business in any part of the world who a year ago dreamed of a production of crude such as the industry in the United States has brought to the surface this year.

In the first six months a total of 444,522,797 bbls. was produced, or at the rate of nearly 890,000,000 bbls. for the current year.

The production on July 1 was 2,530,000 bbls., or at the rate of 923,450,000 bbls. per year, and it was on the ascendancy, so it is not idle to guess that the production for the whole year will be no less than 900,000,000 bbls., which is at least 25,000,000 bbls. more than the estimate made early in the year.

Compared with the production in the first half of last year the first six months of 1927 shows an increase of 84,144,176 bbls. while compared with the production in the first half of 1925 this year shows an increase of 70,177,676 bbls. and it was in the latter part of the first half of 1925 that Smackover deep sand was yielding at its highest, and East Central Texas was producing a large volume of crude.

The accompanying table, which gives the production by division for the first half of 1927, 1926 and 1925, shows some very interesting ups and downs. Fields that were in the forefront two years ago will be found to have dropped back to comparative insignificance and their places taken by areas which two years ago were of little importance.

The total number of producing wells on June 30, 1927 was 316,399, a gain of 9,003 over the same date in 1926. The average production of all the wells in the United States for the half year was 7.76 bbls. per well, as against 6.48 bbls. in the first half of last year. As the production of over 300,000 wells in the United States is less than 1 bbl. per day per well, it will be seen that the production of the other 16,000 wells averages roughly 130 bbls. per day, and of the 16,000, there are wells which at the close of the year were making from 12,000 bbls. down to 5,000 bbls. in considerable number, in the Seminole region of Oklahoma.

The greatest growth in production occurred in Oklahoma where in the first half of 1926, 83,428,423 bbls. was produced while this year the same period yielded 129,565,618 bbls. The average production per well in the state was increased from 7.70 bbls. per well to 11.76 bbls. per well, there being 60,884 oil producing wells in the state at the close of June. The Seminole Field in Seminole County was largely responsible for this great increase as the four pools making up that field produced 55,604,816 bbls. or about 43 per cent of all the oil produced in the state in the period.

The Air-Gas Lift

The bulk of the oil in the Seminole Field comes from the Wilcox sand at an average depth of 4,200 feet. The introduction of the air-gas lift in that field had much to do with the mammoth production of the field, as it is estimated that over half the oil produced this year was lifted by means of air or gas introduced into the wells under pressure. It is the first field in the world to use the air-gas lift on such a large scale, and the looseness of the sand and the free flow of the oil from the sand into the hole made it an ideal place to use this modern means of stimulating production. That it will result in the exhaustion of the sands in a much shorter time than if the more conventional means of producing had been resorted to is a foregone conclusion. Some engineers estimate that the air-gas lift is taking the oil out about eight times as quickly as old fashioned methods of operating would have done.

SUMMARY OF CRUDE OIL PRODUCTION IN UNITED STATES, FIRST SIX MONTHS OF 1927

	1925 Prod. First 6 Mo., Bbls.	1926 Prod. First 6 Mo., Bbls.	1927 Prod. First 6 Mo., Bbls.	Daily Av. 6 Mo., Bbls.	Number Oil Wells June 30	Av. Daily Prod. per Well, Bbls. 6 Months
New York	767,000	922,000	1,101,000	6,083	13,850	.44
Pennsylvania	3,828,000	4,236,000	4,750,000	26,243	77,900	.34
Ohio	3,480,000	3,583,000	3,842,000	21,227	39,300	.54
West Virginia	2,854,193	3,746,000	3,022,000	16,696	20,100	.83
Kentucky	3,443,200	3,072,000	3,209,000	17,729	13,500	1.31
Tennessee	5,400	22,700	26,500	146	.....	.....
Indiana	423,000	285,500	409,000	2,260	2,650	.85
Illinois	3,890,000	3,848,000	3,587,000	19,818	16,900	1.17
Kansas	17,451,868	19,676,445	21,455,000	118,541	20,174	5.87
Oklahoma	86,104,391	83,428,423	129,565,618	715,832	60,844	11.76
North Central Texas	21,967,120	22,721,170	30,023,634	165,876	19,273	8.61
West Texas	3,462,827	6,394,519	15,915,827	87,933	857	102.61
Texas Panhandle	500,590	3,255,532	22,925,094	126,658	1,243	101.90
East Central Texas	27,138,924	10,536,616	7,673,768	42,396	1,622	26.13
Gulf Coast	16,765,034	17,779,409	28,274,834	156,214	2,736	57.10
Southwest Texas	8,263,639	7,101,772	6,713,732	37,092	957	38.77
Arkansas	38,277,670	31,037,486	21,742,314	120,123	4,713	25.49
North Louisiana	9,080,338	9,339,472	9,068,817	50,104	3,904	12.81
Wyoming	14,223,500	13,472,498	10,779,747	59,556	3,343	17.81
Montana	1,429,835	3,741,345	2,073,040	11,453	908	12.61
Colorado	376,186	1,237,624	1,398,539	7,727	123	62.82
New Mexico	305,130	753,466	773,105	4,271	252	16.95
Rocky Mountain miscellaneous	.....	.....	8,600	48	10	4.80
California	110,307,256	110,087,644	116,184,628	641,904	11,240	57.10
Total	374,345,121	360,378,621	444,522,797	2,455,927	316,399	7.76

Seminole was the only field in Oklahoma that showed a large increase in production. Most of the older fields registered a consistent decline through the half year and when Seminole has gone over the top it will be necessary to seek new fields of activity, as there is only one other area at this time that gives promise of future large production, that being in Logan County where Wilcox pay at 5,985 feet was discovered late in the first half of the year with a 2,800-bbl. initial production in the discovery well.

In Kansas only the Churchill Pool in Sumner County showed any considerable gain in production and the future of that state lies altogether in the hands of the wildcatter in the northwestern and western parts of the state.

Texas' Great Half Year

Texas had a great half year. The Spindletop Field in the Gulf Coastal area produced 11,356,515 bbls. in the six months period, most of which came from deep sands. The field had an average of 81,750 bbls. per day at the opening of the year and closed in June with a decrease to 60,525 bbls. It is believed to have shot its bolt, but it threw a lot of oil on the market in the few months it was producing largely.

West Texas' Notable Record

In the West Texas fields some notable production records were made. The Upton-Crane area produced 8,928,355 bbls. in the half year, beginning with a daily average of 32,837 bbls. in January and closing with 69,147 bbls. a day in June, with much territory to be drilled. Reagan County showed a decline starting the year with an average of 29,717 bbls. and closing in June with 24,814 bbls. Wildcatting in Reagan County failed to uncover any important new pools. Pecos County, which threatens to become one of the largest producing fields in the country, was held back because of insufficient outlet for the crude and an unsatisfactory market price, so the first half of the year failed to show the potentialities of that area. It was brought into the producing column in February when it averaged 3,244 bbls. a day and in June averaged 7,451 bbls. It could have made 30,000 bbls. a day just as easily, but the wells were pinched down to a minimum. It produced 763,907 bbls. It will doubtless make a record in the last half of the year as pipe lines are being built from the field which will put it into direct touch with Gulf ports.

Brown County's Activity

The most prolific field in central Texas was Brown County, where a large number of wells were drilled to the comparative shallow pay sands that characterize that county. A total of 4,237,974 bbls. was produced. January showing a daily average of 19,009 bbls. and June 23,544 bbls., with the high spot in May when the average was 26,892 bbls. Shackelford County was another important area in the central field. It produced 2,044,568 bbls. in the first half, but in January it averaged 12,312 bbls., while in June it had fallen to 7,757 bbls.

In the North Texas fields the Burkburnett and Electra Pools and Archer County were consistent producers throughout the period. Young County which started off at 5,065 bbls., ended in June with an average of 11,647 bbls. and produced 1,319,258 bbls. for the half year. Cooke County showed progress as it produced 1,069 bbls. in January and closed the period with an average of 3,833 bbls.

Panhandle's Big Output

The Panhandle fields were held back. They did not produce as much oil as the region was capable of doing. The unsatisfactory market price had something to do with this and a lack of shipping facilities and the lack of demand for the oil while there was better crude to be got at low prices, were other causes. Notwithstanding all this the field produced 22,925,094 bbls. in the six months, an average of 126,658 bbls. per day and 101.90 bbls. per day per well. In the same period last year the same territory produced 3,255,532 bbls. and in the first half of 1925 produced only 500,590 bbls.

The gas resources of the Panhandle came into their own this year, as several important lines were projected which will ultimately take Panhandle gas into far distant cities like Denver, Kansas City and perhaps as far east as Oklahoma City and Tulsa. Lines were also projected which will carry gas to western Texas cities. In the opinion of some, the future of the Panhandle lies in its gas resources more than in its oil deposits.

The Southwest Texas fields also showed progress in the natural gas end of the industry. Its oil fields fell off in production but the region gave good evidence that it is an important gas producer.

The Louisiana-Arkansas territory had rather a dull half year. The production of Arkansas for the six months was 21,742,314 bbls. as against 31,037,486 bbls. in the same period last year and 38,277,670 bbls. in the first half of 1925. North Louisiana about held its own in oil production as compared with the same period in the two previous years. The same may be said of Wyoming, but Montana registered a decline from its record of 3,741,345 bbls. in the first half of 1926 to 2,073,040 bbls. this year.

Oil Shut in in California

California, where the potential production was about 66,000 bbls. a day more than the actual, produced 116,184,628 bbls. in the first six months of the year. It is estimated that with all the fields in the state producing at their full capacity this could have been increased to 128,000,000 bbls. An average of 65,639 bbls. per day was shut in because of unsatisfactory market conditions and overproduction in the Mid-Continent.

Eastern Fields a Surprise

One of the surprises of the year was the increase in production in the oldest producing states in the Union, Pennsylvania and New York. The introduction of new methods of producing oil in the northern pools of the old Eastern Fields resulted in a very considerable increase in the crude output of both states. New York, which has but one field, that around Bolivar and Richburg, and the northern edge of the Bradford Field, produced 1,101,000 bbls. as against 922,000 bbls. in the same period last year and 767,000 bbls. in the same period in 1925, while Pennsylvania produced 4,750,000 bbls. as against 4,236,000 in the first half of last year and 3,828,000 in the same period in 1925.

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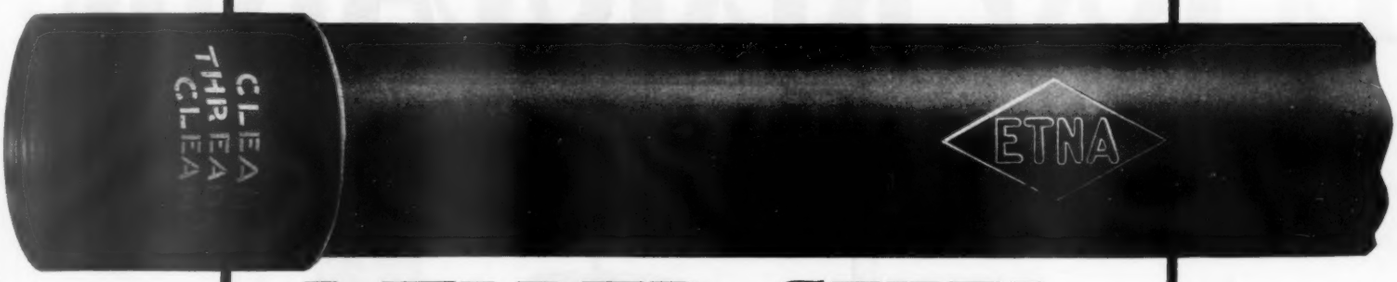

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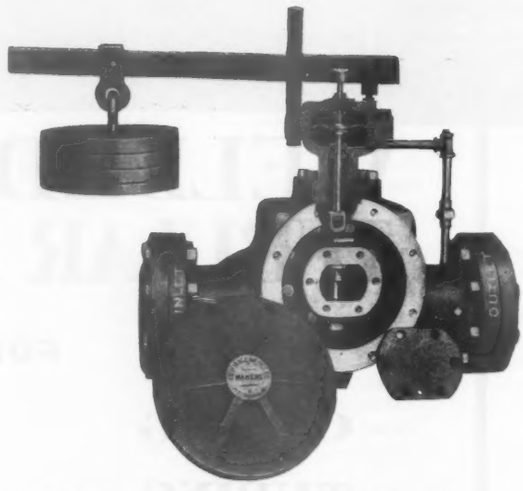

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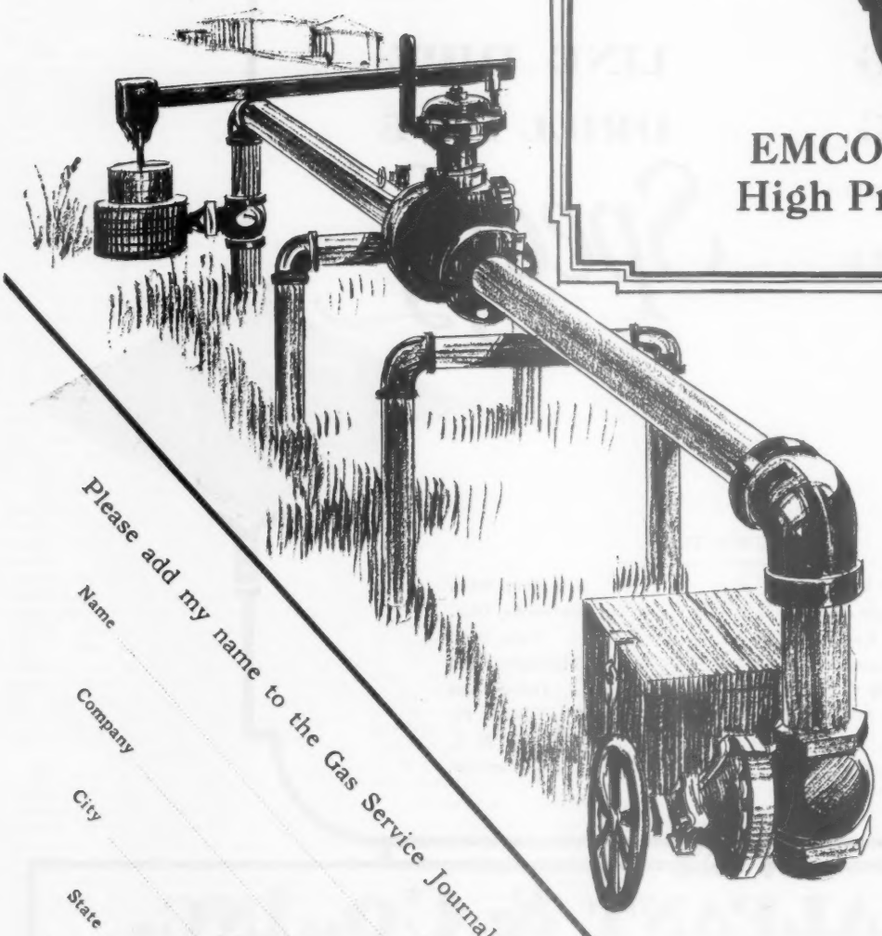

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West Texas Develops Great Fields

Pecos, Crane, Upton and Winkler Counties Develop Fields of Vast Future Importance. Outlet for Oil

By C. D. Lockwood
Staff Correspondent, North and West Texas

Development of gusher production in the Yates Pool of Pecos County and the Hendrick Pool of Winkler County, coupled with notable extensions in Upton County and the linking of Gulf Production Co.'s McElroy Pool with the Church-Fields area of Crane County marked the past six-month period as one of the most important in the history of West Texas.

Two new counties, Ector and Glasscock, were added to the producing list, new pools were opened in Howard and Jones Counties, the possibility of a new pool in northern Winkler County was indicated and records for initial production in the district were broken several times.

It was a great era of pipe line building, one 10-inch trunk line having been completed from Midland to Ranger, connecting with an established system to the Gulf and another started from Kemper to Ingleside near Corpus Christi, a distance of 400 miles. A 6-inch line and an 8-inch line parallel to each other, were completed and placed in operation from the Yates Pool, Pecos County, to the Orient Railroad and another 8-inch was started from the same pool to Del Rio on the Southern Pacific. Pipe line facilities in the Church-Fields and Gulf-McElroy area were also considerably enlarged by the Gulf Pipe Line Co.'s 8-inch to Midland on the Texas & Pacific and, the Southern Pipe Line Co.'s 6-inch to McCamey on the Orient, while the Humble Pipe Line Co. also laid an 8-inch paralleling its 6-inch line. Surveys for a fourth line from the Yates Pool to the Orient Railroad and for another trunk line from Upton County to Corpus Christi were also important pipe line developments of the past six months.

West Texas crude oil stocks increased to 3,744,916 bbls. on July 1 as compared with 1,713,930 bbls. January 1. Production reached a peak of 3,495,381 bbls. in May, the total for the six months having amounted to 16,167,410 bbls. In June, 842 wells were producing in this territory, including Jones County. The average production per well during June was 4,012 bbls., or 133.7 bbls. daily.

Record of Developments

Following is a record of important developments in West Texas during the first six months of 1927:

The Yates Pool of Pecos County is so far the biggest thing developed in West Texas and, in fact, is one of the most phenomenal pools ever opened anywhere. While the discovery dates back to October of last year, the first big well did not appear until about February 15 of this year. This was Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co.'s No. 2 Yates-A, located 535 feet west of No. 1 in Section 34½, Block 1, T. & G. N. Survey. Drilled only about 3 feet in the pay topped at 999 feet, No. 2 flowed 3,583 bbls. initially and increased to more than 3,800 bbls. before it was pinched in.

Every well drilled on the Mid-Kansas and Transcontinental property has been large enough to be called an exceedingly good producer at any depth. Nine have been completed to date with initial production ranging up to an estimated figure of at least 15,000 bbls. in No. 6 Yates-A, and unknown quantities in several others. Just what these nine wells are capable of producing is unknown at present for they have been pinched in most of the time under small chokes. No. 6 Yates-A ran wild for about a week and while efforts were frantically made to bring it under control it flowed 53,837 bbls. from 7 p. m. June 23 to 7 a. m. June 30, with the tools in the hole. One day during this time it flowed 10,209 bbls. direct into a 55,000-bbl. tank and several thousand barrels additional into earthen storage. The total figure for the week represents the amount of oil that was saved.

300 Bbls. in 30 Minutes

No. 2 Yates-B, farthest north producer in the pool, is also an unknown quantity. When opened up for the benefit of a party of Transcontinental officials in June it flowed 300 bbls. in 30 minutes.

Not Yet Defined

The Yates Pool is not yet defined except to the southeast where George A. Henshaw and others drilled a dry hole 2 miles southeast of Mid-Kansas and Transcontinental's No. 6 Yates-A. Allsman & Bell extended the pool to a length of more than 2 miles east and west when their No. 1 Pecos River Bed, just east of the NE cor. of Section 60, Block 1, came in about June 18 for 200 bbls. at 970-1,043 feet. Three tests are now under way to the northwest of the pool seeking extensions in that direction. These are by Gulf Production Co., the California Co. and McMan Oil & Gas Co. and Marland Oil Co. The latter well is on a 775-acre tract purchased by McMan from Marland about June 1 for $500,000, half cash and half oil.

About February 5, Kemper Kimberlin and Frank Pickrell's No. 1 Yates, in Section 55, Block 1, a little more than 3 miles southeast of the pool, topped a pay at 1,255 feet. This well was later drilled to 1,300 feet and pumped 10 bbls. for a while but has been off production for some time now. Pickrell's company, Texon Oil & Land Co., bought out Kimberlin's half interest on February 14, paying $160,000 cash and an equal amount in oil for the half interest in the well and 640 acres. A second test has been drilled to 660 feet, south and west of the first one, but it has so far proved a disappointment swabbing only 50 bbls. after a shot of 180 quarts at 1,240-65 feet. It was drilled to 1,754 feet.

Following the completion of Mid-Kansas and Transcontinental's No. 2 Yates-A, first big well in the pool, the oil fraternity migrated in a body to Pecos County and the very name of Pecos seemed to hold some mystic charm. Fort Stockton became a magnet for lease men and traders of all kinds and was soon filled with geologists. Nine dry holes were subsequently completed in the county and in the absence of further encouragement activity has slowed down considerably. Nothing but sulphur water has been found outside of the Yates area, with the exception of one or two small showings which were accompanied by water.

Two Pools Become One

Linking of the Church-Fields and Gulf-McElroy Pools in Crane County, making one continuous field 6½ miles long and more than 2 miles wide was one of the most important developments of the first half year. Eastland Oil Co. and

(Continued on Page 177)

NORTH CENTRAL AND WEST TEXAS

Daily Average and Monthly Production First Six Months in 1927

		January	February	March	April	May	June	Total
North Central Texas—								
Burkburnett:	Daily average	13,292	12,876	13,210	13,209	13,204	13,211	
	Month	412,052	360,528	409,510	396,270	409,324	396,330	2,384,014
Electra:	Daily average	13,914	13,923	14,370	14,972	14,988	14,996	
	Month	431,334	389,844	464,070	449,160	464,628	449,880	2,648,916
Iowa Park, K. M. A.:	Daily average	4,511	4,459	4,123	4,121	3,969	4,016	
	Month	139,841	124 852	127,813	123,630	123,039	120,480	759,655
Archer County:	Daily average	29,120	29 114	29,689	29,413	29,414	28,140	
	Month	902,720	815,192	920,359	882,390	911,834	844,200	5,276,695
Clay County:	Daily average	845	728	699	757	749	705	
	Month	26,195	20,384	21,669	22,710	23,219	21,150	135,327
Wilbarger County:	Daily average	13,034	13,869	13,123	13,500	13,488	13,116	
	Month	404,054	388,332	406,813	405,000	418,128	393,480	2,415,807
Montague County:	Daily average	12,103	12,487	14,205	12,987	12,714	12,403	
	Month	375,193	349,636	440,355	389,610	394,134	372,090	2,321,018
Young County:	Daily average	5,065	4,840	5,097	5,090	11,826	11,647	
	Month	157,015	135,520	158,007	152,700	366,606	349,410	1,319,258
Baylor County:	Daily average	103	100	98	109	101	97	
	Month	3,193	2,800	3,038	3,270	3,131	2,910	18,342
Cooke County:	Daily average	1,069	1,219	1,443	2,016	2,860	3,833	
	Month	33,139	34,132	44,733	60,480	88,660	114,990	376,134
Total N. C. Texas:	Daily average	93,056	93,615	96,657	96,174	103,313	102,164	
	Month	2,884,736	2,621,220	2,996,367	2,885,220	3,202,703	3,064,920	17,655,166
Central Texas—								
Clear Fork:	Daily average	5,467	5,955	4,776	7,329	7,753	7,065	
	Month	169,477	141,540	148,056	219,870	240,343	211,950	1,131,236
Breckenridge:	Daily average	4,837	4,850	6,147	4,833	4,524	4,286	
	Month	149,947	135,800	190,557	144,990	140,244	128,580	890,118
Caddo:	Daily average	2,967	2,982	2,861	2,706	3,136	3,080	
	Month	91,977	83,496	88,691	81,180	97,216	92,400	534,960
Ranger-Eastland:	Daily average	5,295	5,990	6,879	7,248	7,367	7,284	
	Month	164,145	167,720	213,249	217,440	228,377	218,520	1,209,451
Rising Star:	Daily average	42	39	46	37	50	44	
	Month	1,302	1,092	1,426	1,110	1,550	1,320	7,800
Sipe Springs:	Daily average	140	162	146	158	129	126	
	Month	4,340	4,536	4,526	4,740	3,999	3,780	25,921
Desdemona:	Daily average	1,561	1,486	1,491	1,497	1,450	1,471	
	Month	48,391	41,608	46,221	44,910	44,950	44,130	270,210
Pioneer:	Daily average	440	467	425	445	423	419	
	Month	13,640	13,076	13,175	13,350	13,113	12,570	78,924
Brown County:	Daily average	19,009	22,394	24,891	23,669	26,892	23,544	
	Month	589,279	627,032	771,621	710,070	833,652	706,320	4,237,974
Callahan County:	Daily average	5,475	5,320	4,767	4,362	3,945	4,314	
	Month	169,818	148,960	147,777	130,860	122,295	129,420	849,130
Coleman County:	Daily average	1,164	1,649	1,354	1,234	1,214	1,160	
	Month	36,084	46,172	41,974	37,020	37,634	34,800	233,684
Jones County:	Daily average	1,284	1,680	2,598	2,176	1,813	1,862	
	Month	39,804	47,040	80,538	65,280	56,203	55,860	344,725
Jack County:	Daily average	602	527	477	543	450	636	
	Month	18,662	14,756	14,787	16,290	13,950	19,080	97,525
Palo Pinto County:	Daily average	398	473	521	468	507	449	
	Month	12,338	13,244	16,151	14,040	15,717	13,470	84,960
Shackelford County:	Daily average	12,312	13,240	13,517	11,770	9,269	7,757	
	Month	381,672	370,720	419,027	353,100	287,339	232,710	2,044,568
Throckmorton County:	Daily average	1,877	1,665	1,546	1,835	1,799	2,091	
	Month	58,187	46,620	47,926	55,050	55,769	62,730	326,282
Total Cen. Tex.	Daily average	62,873	67,979	72,442	70,310	70,721	65,588	68,328
	Month	1,949,063	1,903,412	2,245,702	2,109,300	2,192,351	1,967,640	12,367,468
West Texas—								
Reagan County:	Daily average	29,717	26,690	25,470	27,278	25,174	24,814	
	Month	921,227	747,320	789,570	818,340	780,394	744,420	4,801,271
Mitchell County:	Daily average	3,480	3,687	3,745	3,801	3,825	3,766	
	Month	107,880	103,236	116,095	114,030	118,575	112,980	672,796
Glasscock County:	Daily average	.....	.....	.....	32	34	36	
	Month	.....	.....	.....	960	1,054	1,080	3,094
Winkler County:	Daily average	122	175	335	1,201	905	1,231	
	Month	3,782	4,900	10,385	36,030	28,055	36,930	120,082
Howard County:	Daily average	1,396	1,689	2,677	2,157	2,734	3,291	
	Month	43,276	47,292	82,987	64,710	84,754	98,730	421,749
Scurry County:	Daily average	35	34	26	54	54	20	
	Month	1,085	952	806	1,620	1,674	600	6,737
Upton-Crane Cos.:	Daily average	32,837	29,706	40,778	55,342	67,092	69,147	
	Month	1,017,947	831,768	1,264,118	1,660,260	2,079,852	2,074,410	8,928,355
Crockett County:	Daily average	990	1,110	1,067	1,037	844	1,304	
	Month	30,690	31,080	33,077	31,110	26,164	39,120	191,241
Loving County:	Daily average	15	15	17	24	18	24	
	Month	465	420	527	720	558	720	3,410
Pecos County:	Daily average	.....	3,244	1,074	792	12,661	7,451	
	Month	.....	90,832	33,294	23,760	392,491	223,530	763,907
Ector County:	Daily average	.....	.....	21	18	14	16	
	Month	.....	.....	651	540	434	480	2,105
Garza County:	Daily average	.....	.....	.....	.....	30	5	
	Month	.....	.....	.....	.....	930	150	1,080
Total West Texas:	Daily average	68,592	66,350	75,210	91,736	113,385	111,105	87,933
	Month	2,126,352	1,857,800	2,331,610	2,752,080	3,514,935	3,333,180	15,915,827

Seminole's Rapid Rise to Supremacy

Greatest High Grade Oil Field in the World Produced 66,832,099 Bbls. the First Year. Still on Ascendancy

By J. L. Dwyer

The Seminole Field in Seminole County, central Oklahoma, is a modern Frankenstein which is slowly strangling its creators. One year old, the field on the day this was written, lacked only 3,000 bbls. of producing 500,000 bbls. of oil daily, and due to the flood of oil which has been produced within its borders, the entire crude price structure of the nation has felt the influence of severe reduction.

The most unusual field known, its effects are far reaching, and in some cases diametrically opposed to each other; for it has established several individual fortunes through fortunate investments in leases and royalty, and these have been more than offset by the great daily loss which has been occasioned through lowered crude prices.

It has established record after record for individual production as well as new peaks of production which have occurred with monotonous regularity and which have not yet touched their highest figure unless means are used to stay it.

It has clearly demonstrated the absolute necessity of companies operating in the Oklahoma fields to maintain ample geological departments, for there is not a single company in the field which does not have an extensive geological organization except the Magnolia Petroleum Co.

The field has produced up to July 1, 66,832,099 bbls. of high-gravity crude oil, and the influence of this mammoth output has been felt throughout the entire industrial and financial structure of our nation, if not throughout the world. Due to the overproduction of Seminole, the fabric mills of New England have had the advantage of cheaper fuel and lubricating oils; the motorized population has been able to purchase its gasoline for less money; the bankers and bond syndicates of the country's financial center have reaped millions of dollars in commissions through the sale of large bond issues, and the stock brokerage houses have chalked up huge profits through stock transactions, the majority of which were "short sales." Some of the companies operating in the field have made a tremendous profit according to their present calculations, but the oil industry in general has been reduced to poverty—through the huge production of Seminole.

I. T. I. Opened the Field

The pre-Seminole discovery was made in February, 1926, by the Indian Territory Illuminating Oil Co. of Bartlesville, Okla. This company has operated and explored the Seminole area for over five years, and its persistent and abiding faith in the oil-bearing possibilities of the region resulted in its acquisition of several thousand acres of leases all through Seminole County, but its particular stronghold was in blocks in Townships 8-6 and 9-6.

To assume that these leases were purchased at a nominal cost of $2 or $3 per acre is erroneous, because at the time of purchase the I. T. I. Oil Co. was regarded with a lifted eyebrow by many companies who were anxious to buy in the vicinage, but declined to pay the prices which purchased Seminole acreage for the Indian Territory organization.

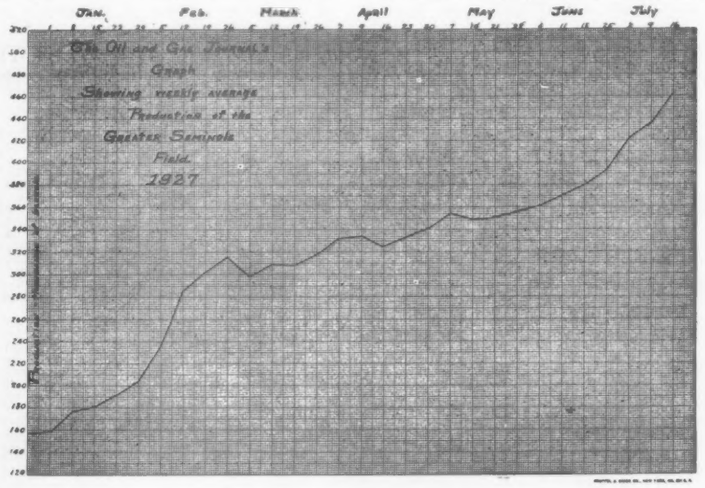
The first producing well was No. 1 Dyer in Section 24-9-6, and was a producer in the Hunton lime. On July 16, 1926, the Independent Oil & Gas Co. and R. F. Garland tapped the Wilcox sand in No. 1 Fixico, Section 26-9-6, and the well had an initial production of 1,000 bbls. daily which later was increased by further pentration to 7,000 bbls.—the Seminole debacle was started.

By late fall, there was every reason to believe that a curtailment program was necessary, for that tocsin of trouble—crude on the ground—was a common occurrence, and there was some discussion of state intervention.

Production Underestimated

A series of conferences developed nothing of importance, and the drill continued merrily on, and the year 1927 was started with an average production of 159,000 bbls. At this time the majority of petroleum prophets was extremely active in making predictions, and the consensus of opinion had it that the end was in sight. The reasons advanced for this were that the air-gas lift equipment, and the torpedo had exerted every possible stimulus on the output of the field, and that very soon it would establish a rapid decline. How erroneous these guesses were is best emphasized by the production of the field which was exactly doubled in six weeks, and the 300,000-bbl. figure was passed.

The phenomenal increase in production of the pool was caused solely by the completion of larger wells in three different sectors of the pool, and by that time the pipe line facilities were totally incapable of handling the oil. Another series of conferences developed nothing of importance, and then the Seminole operators settled down to the task of producing all the oil they could as rapidly as possible.



Long-Distance Drainage

Naturally there has been some direct cause for the rush to produce the oil in this field at the current prices which are ruinous to profit. The most common reason given for this is the sand condition of the Seminole Field. The Wilcox sand at Seminole is a very soft, friable sand of loose texture and porosity. Its saturation is heavy, but the oil in this field is a very fugitive fluid, and the effects of drainage are felt to a degree hitherto unheard of in oil fields. It has been carefully computed by petroleum engineers that drainage in the Seminole Field may be felt for a half mile or in some isolated instances even five-eighths of a mile.

This condition has done more to stimulate drilling and production in the field than any one known cause. When a new well is drilled in, the owners of leases within half a mile hastily erect derricks and start to drill in an effort to protect their properties from drainage, and there is much justification in this procedure.

Expect Big Acreage Production

Assuming that the average ultimate recovery of oil in this field will be close to 20,000 bbls. per acre (although the majority of students place the figure at 28,000) a 40-acre lease has a right to expect a recovery of 800,000 bbls. from its wells if all locations are productive.

In the Bowlegs district of Seminole, opened in January, one of the first wells drilled held steadily at a producing rate of 6,000 bbls. daily for over 100 days. The first well produced up to June 1, 1927, 432,000 bbls. of oil, a great deal more than its share according to the recovery per acre; but then it must be remembered that it was the discovery well in part of Bowlegs. The results of drainage may best be calculated when it is considered that all three of the offset wells have been producing for over 90 days, and the best of the three has only produced 200,000 bbls. with the other two far below this figure.

The 40-acre lease upon which the first well was drilled is now making 3,000 bbls. from three wells, and to examine the current output of the offsets would not be amiss. One of the offset leases is producing 1,900 bbls. from four wells; another is making 4,700 bbls. from four wells, while the third is faring better, and is making 3,800 bbls. from four wells. It is doubtful if the production of all three offsets will equal that of the discovery lease, and this explains the necessity of haste with the drill if one's property is to be adequately protected in the Seminole Field.

Discovery Rights

Discovery rights, it will be reflected, mean everything in this area. The usual time to complete a well in a new part of the field is 100 days. If the first well is allowed to draw upon the sand for a period of 100 days, and normal output of the well is 2,000 bbls. (a reasonable figure in this region) it will be observed that a production of 200,000 bbls. has been made by the discovery well before it has competition from other wells in pulling the oil from the sand.

Many harsh observations have been made about the failure of the Seminole operators to agree upon a constructive policy of curtailment. Regarded in the abstract it would seem a simple proposition to limit drilling activities, but the Seminole Field contains for the most part small leases, and the small divisions of land throw innumerable complications into any drilling limitation program. There are among other things, royalty interests to consider, and the royalty interests have been fractionated into very small parts; yet, each of these royalty owners has a valid claim upon the activities of the leasing or operating company, and should any concerted plan to shut down operations be formulated, each royalty owner must be satisfied. Another angle to a field like this is that one single royalty owner could do considerable damage to a shut-down policy. The royalty owner might file a suit (and what is there to prevent the suit being an inspired one) inspired perhaps by a company which has committed itself to a certain daily production, and has every wish to continue producing.

All these factors have combined to eliminate any sound policy of conservation being adopted.

Peculiarities of Geology

From a geological standpoint, the field has many peculiarities. The old Seminole city pool was nothing more or less than a series of wrinkles in the Wilcox sand. Those who are apt to consider a certain sand as an inclined plane, would have their illusions shattered, to study the map showing elevations and sand tops at Seminole. The crooked holes drilled by the rotaries have in a sense contributed to the inaccurate measurements of the field. There have been wells found over 200 feet lower on the structure than offset wells, and the low wells have produced. Wells have been found which ran very high judged by their offsets, and the high wells have been barren.

It is doubtful if the true picture of subsurface conditions at Seminole will ever be known, unless we reach the age when oil is mined.

The Earlsboro Field in Township 9-6 is without doubt one of the most erratic and irregular fields known to oildom. Speaking of the field, the president of a company which has operated to good advantage when asked how he regarded his operations in that area said: "Easy, I just take the map and mark every third hole as being dry." In a sense that is as good a manner of calculating Earlsboro's possibilities as any.

Bowlegs' Distinction

The Bowlegs Field should stand out distinctly as the world's greatest air-gas lift field, for the use of this equipment in Bowlegs has made the field what it is. The wells at Bowlegs have a uniformly low gas and rock pressure, and a consequently limited flowing life. The wells which flow, and they are very few, only maintain their natural flowing life for 15 or 20 days, and then the air is brought into play.

A recent week may be taken as an example. There were 15 wells completed at Bowlegs, and one flowed, 14 had good static heads of oil standing in the hole. The well which flowed made a production of 3,500 bbls. Within 10 days the 15 wells had attained through the use of the air-gas lift, a production of 57,000 bbls. Had Bowlegs been discovered four or even three years ago, and discovered before Seminole, it is very questionable if it would have attracted more than passing notice, but the air-gas lift has changed all that, and out of the 200,000 bbls. which the field is now making over 150,000 bbls. is coming through the use of the air lift.

The Little River Pool in Section 1-7-6, the most recent to break into the Seminole family, has one well discovered by the Indian Territory Illuminating Oil Co. It is a Wilcox sand well making 12,700 bbls. and its finding naturally gave impetus to additional drilling. The services of Umpire Ray M. Collins, who has been the official gendarme of the field, were called upon and he, after giving the matter study, devised a plan whereby only 12 wells were started, and the original well was to be allowed to produce for a period of 100 days, after which it was to be pinched in to 100 bbls. daily, together with future producing wells.

There were three short term leases in the vicinity of the Little River well, and they caused the first trouble. After much deliberation, it was decided to drill the 12 wells, but recent tribulations have caused this agreement to be disregarded,

(Continued on Page 186)

SPEAKING OF FIRE HYDRANTS AND VALVES

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To the Oil and

The officers and directors, together with the personnel of the Tulsa National Bank and Tulsa Trust Company, extend a cordial invitation to members of the industry to visit the new home of these affiliated institutions, which was formally opened on July 7.

The new building, just completed at Fourth Street and Boulder, Tulsa, is an eight-story office building of the most modern design. All

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C. L. YANCEY, Yancey & Fist, Attorneys
S. S. PRICE, Dixie Oil Co.

TULSA NATIONAL BANK and

Gas Industry

departments of both institutions are commodiously housed on the main floor and mezzanine.

The Tulsa National Bank and Tulsa Trust Company are among the strongest financial organizations in the southwest. No institutions have enjoyed a more rapid or substantial growth, and the combined resources of the two are more than $9,000,000.

Facilities

TRUST DEPARTMENT
Trustee under wills and trust agreements. Acts as executor, administrator, guardian and custodian.

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A wide list of bonds that have passed our critical inspection. Permanent financing for industries.

REAL ESTATE DEPARTMENT
Properties managed, rentals collected. Sales division giving complete service.

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C. C. HERNDON, Vice-President, Skelly Oil Company
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J. M. GILLETTE, Capitalist
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C. L. McMAHON, Oil Producer
GEORGE M. CANTERBURY, Oil Operator
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O. L. CORDELL, Refiner & Marketer
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DONALD S. ROSS, Treasurer

JOHNSON D. HILL, President

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TULSA TRUST COMPANY

The service a tool gives begins in the shop where it is made

What lies between the tool warehouse and the junk pile where all tools, good or bad, eventually end?

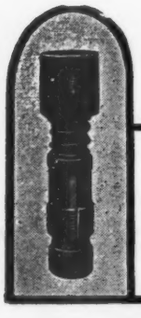
How much service? How many tough jobs, well handled? How much grief? How many repairs?

The answers to these questions tell the whole story of a fishing or drilling tool. And the answers depend on where and how the tool was made.

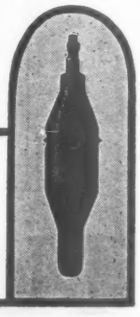
"Time tells its story." Cheap material and poor workmanship cannot be hidden,—cannot be long covered up in a drilling or fishing tool. And the "Acme" story brings us no shame. It tells of efforts made to correct and improve the design of Acme Tools so that they may always efficiently meet the demands made upon them. It tells of good materials, the best quality steel, of conscientious workmanship, the pride of skilled workmen in their craft. It tells of long experience in designing and manufacturing of tools. It tells of comprehension of the needs of operators and of actual operating problems. It tells of unexcelled value on account of economical manufacture. It tells of the Acme ideal of making the best tool possible at the lowest possible price.

"Time tells its story." 90% of the Acme customers gained during the 26 years in which Acme tools have been on the market (who are still active in operations) are still Acme customers. It's a story of which we're proud. It's a story we've earned and one that we will make every effort to continue to merit. It's a story that means your protection when buying or renting fishing or drilling tools.

Always ask for Acme Tools by name. Let them tell you their story of Quality and Service and Value.



ACME FISHING TOOL CO.
Parkersburg, West Virginia.



Export Office: 136 Liberty St., New York City, N.Y.

Warehouses and Distributors:

Acme Fishing Tool Company—Parkersburg, W. Va.
Acme Fishing Tool Company—Omulgee, Okla.
B. & A. Specialty Company—Tulsa, Okla.
Acme Fishing Tool Co. of Tex.—Whittenburg, Tex.
Acme Fishing Tool Co. of Tex.—Roxana, Texas.
Acme Rental Tool Service Company—Graham, Tex.
Acme Tool Co.—Breckenridge, Tex.
Acme Tool Co.—Albany, Texas.
Acme Tool Co.—Brownwood, Texas.
Acme Tool Co.—Cross Plains, Tex.
Acme Tool Co.—Fry, Texas.
Acme Tool Co.—McCamey, Texas.
Midland Iron Works—Billings, Montana.
Great Northern Tool & Supply Co—Kevin, Montana.
Great Northern Tool & Supply Co.—Kemmerer, Wyo.
Elms Brothers & Company—Waynesburg, Penna.
Lloyd, Smith Company—Bradford, Penna.
Logan Foundry & Machine Company—Logan, Ohio.

California Petroleum Statistics First Half of 1927

SUMMARY OF CALIFORNIA FIELD OPERATIONS BY DISTRICTS

District—	Total New Rigs	Total Wells Comp.	Total Initial Prod.	Holes Abd. Drillrs.	Holes Abd. Prodrs.	Average Wells Prod'g	Average Wells Drill'g
Kern River	50	35	5,213	6	...	1,289	11
Mount Poso	6	4	2,200	5	...	2	3
Round Mountain	2	1	500	...	...	...	...
McKittrick	8	7	172	...	...	312	1
Midway-Sunset	55	72	9,727	9	10	2,996	23
Elk Hills	...	...	.....	...	...	242	...
Lost Hills-Belridge	1	1	20	...	...	288	2
Coalinga	2	5	272	3	11	958	5
Wheeler Ridge	1	1	125	...	...	28	1
Watsonville	...	...	.....	...	...	6	...
Santa Maria	5	4	1,100	4	...	208	4
Summerland	2	1	25	...	...	109	2
Goleta	10	3	1,490	1	...	1	3
Ventura Avenue	22	24	33,584	...	...	85	28
Ventura-Newhall	9	8	1,100	13	...	515	35
Los Angeles-Salt Lake	...	...	.....	...	13	358	...
Whittier	...	1	60	4	1	182	...
Fullerton (Brea Olinda)	7	9	4,344	...	...	422	13
Coyote	6	1	300	1	1	210	3
Santa Fe Springs	1	3	879	1	14	340	2
Montebello	6	6	1,155	1	...	182	5
Richfield	42	41	11,981	1	8	214	27
Huntington Beach	92	133	54,843	4	4	529	49
Long Beach	28	28	16,423	18	73	701	18
Torrance	5	8	971	1	6	655	3
Domingues	4	7	2,165	3	2	77	3
Rosecrans	1	5	3,451	10	4	127	2
Inglewood	7	8	2,097	2	...	214	1
Newport	...	3	25	1	...	8	1
Seal Beach	212	111	159,919	2	...	41	75
Miscellaneous drilling	51	...	.....	81	...	.....	134
Total first half 1927	635	531	314,141	171	147	11,299	454

SUMMARY OF CALIFORNIA FIELD OPERATIONS BY MONTHS

1927—	Total New Rigs	Total Wells Comp.	Total Initial Prod.	Holes Abd. Drillrs.	Holes Abd. Prodrs.	Average Wells Prod'g	Average Wells Drill'g
January	131	103	46,370	35	28	11,405	447
February	66	68	29,011	32	22	11,339	439
March	181	79	40,552	27	29	11,298	493
April	128	105	81,432	31	37	11,223	503
May	50	80	52,575	19	13	11,191	444
June	79	96	64,201	26	18	11,240	396
First half year 1927	635	531	314,141	171	147	11,299	454
First half year 1926	509	496	154,531	140	112	11,290	417
First half year 1925	605	459	221,005	152	75	11,534	438
First half year 1924	726	688	290,078	305		10,570	559
First half year 1923	719	387	644,368	122		8,986	783
First half year 1922	593	321	130,443	84		9,816	584
First half year 1921	661	365	112,210	78		9,749	557
First half year 1920	430	254	47,168	97		9,159	369

TOTAL EXPORT TANKER SHIPMENTS (BULK) OF CALIFORNIA OIL TO PACIFIC AND ATLANTIC FOREIGN PORTS

(In barrels of 42 U. S. gallons.)

1924—	Crude Oil	Fuel, Gas Oil and Diesel	Naphtha Tops	Motor Gasoline	Kerosene	Lubricat'g Oil	Total
January	388,676	1,352,105	.....	250,383	200,843	59,170	2,251,177
February	290,282	1,402,102	.....	323,859	242,029	.....	2,258,092
March	357,958	1,473,047	.....	240,181	336,829	.....	2,408,015
April	296,074	1,673,941	.....	483,980	508,153	.....	2,962,148
May	541,877	1,615,174	.....	330,888	349,739	49,110	2,886,788
June	495,307	1,423,078	.....	240,757	324,535	.....	2,483,677
Total first half	2,370,174	8,939,447	.....	1,870,048	1,962,128	108,280	15,250,077
July	459,084	2,296,858	.....	586,141	482,135	.....	3,824,218
August	551,598	1,710,692	.....	572,230	297,518	50,000	3,182,038
September	523,190	1,942,257	.....	608,205	279,463	.....	3,353,115
October	374,413	1,526,834	.....	281,986	246,718	.....	2,429,951
November	411,151	1,308,843	.....	363,934	149,940	40,000	2,273,868
December	118,758	1,246,135	.....	214,118	338,511	.....	1,912,522
Total last half	2,438,194	10,031,619	.....	2,626,614	1,789,285	90,000	16,975,712
Total year	4,808,368	18,971,066	.....	4,496,662	3,751,413	198,280	32,225,989
1925—							
January	171,115	1,151,948	79,667	329,306	167,079	.....	1,899,115
February	194,456	1,583,847	.....	257,447	236,849	38,650	2,311,249
March	172,386	1,492,625	.....	563,558	310,127	56,491	2,595,187
April	126,673	1,090,405	79,472	375,654	223,327	.....	1,895,531
May	154,740	1,695,839	.....	456,781	277,696	49,827	2,664,883
June	232,158	1,887,448	.....	597,492	321,414	.....	3,038,512
Total first half	1,081,528	8,902,112	159,139	2,580,238	1,536,492	144,968	14,404,477
July	121,694	1,806,667	.....	400,424	467,939	.....	2,796,724
August	290,234	1,484,215	.....	529,709	294,159	.....	2,598,317
September	21,151	1,271,266	.....	139,209	528,867	.....	1,960,493
October	333,576	1,233,434	.....	348,134	202,968	.....	2,118,112
November	271,639	1,831,031	.....	395,314	348,360	.....	2,846,344
December	239,759	1,682,189	.....	577,347	349,266	.....	2,848,561
Total last half	1,278,053	9,308,802	.....	2,390,137	2,191,559	.....	15,168,551
Total year	2,359,581	18,210,914	159,139	4,970,375	3,728,051	144,968	29,573,028
1926—							
January	109,027	1,981,264	.....	432,253	236,991	9,093	2,768,643
February	267,249	1,890,653	.....	568,688	516,142	.....	3,242,732
March	109,660	1,603,665	.....	463,613	159,177	.....	2,336,115
April	420,040	2,005,084	.....	919,477	543,746	8,958	3,897,305
May	709,177	1,742,211	.....	819,133	270,384	.....	3,540,905
June	326,471	1,986,043	.....	484,560	525,151	.....	3,322,225
Total first half	1,941,634	11,208,920	.....	3,687,729	2,251,591	18,051	19,107,925
July	599,878	1,969,194	.....	502,621	396,323	.....	3,468,016
August	285,060	2,467,099	.....	628,355	630,422	8,759	4,019,695
September	560,941	1,579,680	166,967	507,600	361,467	.....	3,176,655
October	109,486	2,271,694	71,052	591,028	751,464	39,896	3,834,620
November	290,899	1,911,658	53,175	538,861	7,719	.....	2,802,312
December	348,686	1,709,074	96,270	461,681	321,955	.....	2,937,666
Total last half	2,194,950	11,908,399	387,464	3,230,146	2,469,350	48,655	20,238,964
Total year	4,136,584	23,117,319	387,464	6,917,875	4,720,941	66,706	39,346,889
1927—							
January	293,966	2,161,488	75,089	363,974	293,224	9,120	3,202,861
February	442,105	2,714,308	.....	613,516	238,240	.....	4,008,169
March	106,509	2,491,335	72,371	821,464	409,798	.....	3,901,467
April	477,263	2,834,749	154,833	649,911	479,764	.....	4,596,520
May	56,496	2,670,959	.....	1,362,264	91,673	39,420	4,220,272
June	236,433	3,111,897	.....	464,343	236,841	.....	4,049,514
Total first half	1,618,772	15,984,196	302,293	4,275,462	1,749,540	48,540	23,978,803

Note: The above figures do not include case goods.

PRODUCTION OF CRUDE BY MONTHS—CALIFORNIA OIL DISTRICTS

(Barrels of 42 U. S. Gallons)

Month—	1927 Total Barrels	1927 Daily Average	1926 Total Barrels	1926 Daily Average
January	20,184,872	651,125	19,069,563	615,147
February	17,982,711	642,240	17,163,963	612,999
March	19,835,724	639,862	18,825,786	607,283
April	19,493,825	649,794	18,091,771	603,059
May	19,506,054	629,228	18,667,144	602,166
June	19,181,442	639,381	18,269,417	608,981
Total first half	116,184,628	641,904	110,087,644	608,219
July	.....	.....	18,743,199	604,619
August	.....	.....	18,765,080	605,325
September	.....	.....	18,104,954	603,498
October	.....	.....	18,966,058	611,808
November	.....	.....	19,173,128	639,104
December	.....	.....	20,276,950	654,095
Total last half	.....	.....	114,029,369	619,725
Total year	.....	.....	224,117,013	614,019

Month—	1925 Total Barrels	1925 Daily Average	1924 Total Barrels	1924 Daily Average
January	18,743,288	604,622	20,912,500	674,597
February	16,869,833	602,494	19,341,226	666,939
March	18,626,019	600,839	19,913,262	642,363
April	17,959,653	598,655	19,299,849	643,328
May	18,820,328	607,107	19,833,576	639,793
June	19,288,135	642,938	18,807,999	626,933
Total first half	110,307,256	609,598	118,108,412	648,947
July	20,411,049	658,421	19,274,755	621,766
Augus.	21,005,580	677,599	19,112,998	616,548
September	20,062,763	668,759	18,308,233	610,274
October	20,015,076	645,648	18,696,559	603,115
November	19,095,907	636,530	17,767,034	592,234
December	19,249,711	620,958	18,795,126	606,294
Total last half	119,840,086	651,305	111,954,705	608,449
Total year	230,147,342	630,541	230,063,117	628,588

Month—	1923 Total Barrels	1923 Daily Average	1922 Total Barrels	1922 Daily Average
January	16,457,445	530,885	9,717,632	313,472
February	16,426,759	586,670	9,060,383	323,585
March	19,608,192	632,522	10,250,547	330,663
April	20,695,959	689,865	10,186,081	339,536
May	21,535,365	694,689	11,146,193	359,554
June	22,667,106	755,570	10,731,942	357,731
Total first half	117,390,826	648,568	61,092,778	337,529
July	25,262,082	814,906	11,598,291	374,138
August	26,440,005	852,903	11,848,882	382,221
September	25,762,487	858,750	12,205,146	406,838
October	24,576,400	792,787	13,419,432	432,885
November	22,397,848	746,595	14,035,537	467,851
December	21,899,247	706,427	15,426,810	497,639
Total last half	146,338,069	795,316	78,534,098	426,816
Total year	263,728,895	722,545	139,626,876	382,539

CALIFORNIA POTENTIAL DAILY PRODUCTION—1923-1926 INCLUSIVE

1923—	Marketable Daily Production	Marketable No. wells Produc'g	Curtailed Daily Production	Curtailed No. of Wells	Total Potential Daily Production	Total Potential No. of Wells
	Year 1923					
January	530,885	9,077	82,064	1,866	612,949	10,943
February	586,670	9,094	98,936	1,877	685,606	10,971
March	632,522	9,058	98,936	1,877	731,458	10,935
April	689,865	9,043	103,936	1,902	793,801	10,945
May	694,689	8,847	154,270	2,210	848,959	11,057
June	755,570	8,859	154,270	2,210	909,840	11,069
July	814,906	8,808	154,270	2,210	969,176	11,018
August	852,903	8,832	154,270	2,210	1,007,173	11,093
September	858,750	8,922	154,270	2,210	1,013,020	11,133
October	792,787	8,617	111,551	2,579	904,338	11,196
November	746,595	8,590	111,551	2,579	858,146	11,169
December	706,427	9,396	111,551	2,579	817,978	11,975
Daily average	722,545	8,933	124,288	2,192	846,833	11,125
	Year 1924					
January	674,597	9,801	30,050	1,313	704,647	11,114
February	666,939	10,283	42,653	884	709,592	11,167
March	642,363	10,549	26,396	785	668,759	11,334
April	643,328	10,826	19,500	496	662,828	11,322
May	639,793	10,900	12,500	481	652,293	11,381
June	626,933	11,062	13,930	431	640,863	11,493
July	621,766	11,305	15,430	498	637,196	11,803
August	616,548	11,080	21,207	628	637,755	11,708
September	610,274	11,169	21,207	678	631,481	11,847
October	603,115	11,282	21,207	678	624,322	11,960
November	592,234	11,258	21,207	678	613,441	11,936
December	606,294	11,319	21,207	688	627,501	12,007
Daily average	628,588	10,903	22,089	687	650,677	11,590
	Year 1925					
January	604,622	11,380	22,251	661	626,873	12,041
February	602,494	11,446	22,251	640	624,745	12,086
March	600,839	11,482	22,251	640	623,090	12,122
April	598,655	11,590	22,251	640	620,906	12,230
May	607,107	11,628	22,251	640	629,358	12,268
June	642,938	11,680	43,452	1,270	686,390	12,950
July	658,421	11,579	43,542	1,270	701,873	12,849
August	677,599	11,675	43,452	1,270	721,051	12,945
September	668,759	11,093	61,103	1,901	729,862	12,994
October	645,648	11,066	64,003	1,961	709,651	13,027
November	636,530	11,029	64,153	1,986	700,683	13,015
December	620,958	11,069	65,003	1,986	685,961	13,055
Daily average	630,541	11,393	38,195	1,239	668,736	12,633
	Year 1926					
January	615,147	11,108	61,503	1,924	676,650	13,032
February	612,999	11,186	61,503	1,924	674,502	13,110
March	607,283	11,317	56,969	1,905	664,252	13,222
April	603,059	11,389	54,269	1,872	657,328	13,261
May	602,166	11,437	54,269	1,872	656,435	13,309
June	608,981	11,305	52,419	2,022	661,400	13,327
July	604,619	11,273	53,269	2,115	657,888	13,388
August	605,325	11,245	53,269	2,115	658,594	13,360
September	603,498	11,254	53,269	2,115	656,767	13,369
October	611,808	11,296	53,269	2,115	665,077	13,411
November	639,104	11,316	53,419	2,116	692,523	13,432
December	654,095	11,333	54,269	2,120	708,364	13,453
Daily average	614,019	11,288	55,169	2,019	669,128	13,307
	Year 1927					
January	651,125	11,405	54,769	2,121	705,894	13,526
February	642,240	11,339	54,769	2,121	697,009	13,460
March	639,862	11,298	55,544	2,154	695,406	13,452
April	649,794	11,323	59,194	2,156	708,988	13,479
May	629,228	11,191	85,183	2,377	714,411	13,568
June	639,381	11,240	84,372	2,378	723,753	13,618
Daily average, first half	641,904	11,299	65,639	2,218	707,543	13,617

(Continued on Page 178)

Deep Sand Discoveries in Oklahoma

Two Pools Opened in Seminole, One in Pontotoc and One in Logan County Featured First Half. Production Up

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The Oklahoma semiannual summary for 1927 presents a sharp contrast to the summaries of the past few years, for it reveals almost 25 per cent of the total number of wells drilled are located in a single county, and of course the county is Seminole.

Owing to the astounding performance of this wonderful field, the net results of the Oklahoma operations have assumed a different hue from the results of other years. Although there were fewer wells drilled in the State during the first half of this year, the initial production of the oil wells is almost three times as great as the same figure for the first half of 1926, and considerably more than twice as great as the initial production of 1925 and 1924, although 200 more wells were completed in both of these years.

This great change is caused primarily by the Seminole Field, and the poor crude price which has marked the year. When Seminole started the year with an output of 166,000 bbls., the industry was rather inclined to believe that it had touched its peak, but within three weeks its output was doubled.

New peaks appeared with monotonous regularity all through the spring and consequent price reductions followed. With a falling crude market, lease transactions around drilling wells became very scarce, and the sale of promotion leases was almost stopped. This naturally was reflected in the limited number of wildcat wells drilled, and while the Seminole country was the scene of a mad frenzy of drilling, there was a noticeable slowing up of drilling operations in the outlying districts in other parts of the State.

509 Wells Drilled in Seminole

There were 2,365 wells drilled in Oklahoma during the first half of the year, and 509 of them were drilled in Seminole County. The initial production of the Seminole County operations totaled 714,881 bbls., while the total initial production of all wells drilled in the State was only 963,276 bbls. With Seminole out of the photo, it is easy to estimate what would have happened.

Seminole, however, was decidedly in the picture, and in fact occupied such an important position that to treat it merely as an incident of the Oklahoma fields would hardly be awarding it the prominence which it deserves, and therefore it is treated in a separate review elsewhere in this edition.

Hardly a six months has elapsed in the Mid-Continent in the past few years that has not been marked by deeper drilling. Deeper drilling seems to have become the password of the industry, and the most recent instance of this is in Logan County, western Oklahoma.

Logan County in Limelight

Logan County operations in one sense of the word are by far the most significant of future activities in the State, for in them might be found one interpretation of the question one hears occasionally, "After Seminole, what?"

After a rather lengthy period of geological exploration, core drilling and spasmodic wildcatting, Logan County broke into the production columns in the spring with a small well owned by the Texas Pacific Coal & Oil Co. and other interests. The tale of the original well is pathetic, and during the unusually long period required to complete it, the owners experienced every variation of trouble. The well was completed in for 40 bbls. daily, and this limited amount of oil gave additional hope to the region.

The Roxana Petroleum Corp. had been active in core drilling this area, and pursuant to the use of the core drill decided to drill a test well which was located in Section 30-19-4w. This well found the Wilcox series of sands at a depth of 5,985 feet late in June, and the well started flowing 2,800 bbls. daily. It bears the distinction of being the deepest oil producer in the Mid-Continent area, and narrows the gap between the depths of Oklahoma and California sands.

The Roxana Corp. is in possession of 2,500 acres of leases around the new well, and if it should follow the usual performance of Roxana ventures the ultimate results will show that the discoverers availed themselves of all the productive acreage long before the drill entered the grass roots. Logan County may hold numerous other pools, but it is extremely unlikely that the Roxana's operation mentioned above will cover more than 2,500 acres in area when the final chapters have been written.

Oil in Oklahoma County

Another interesting occurrence of 1927 was the drilling of a well within the shadow of the State capitol by the Cromwell Oil & Gas Co. of Muskogee, Okla. This well was drilled on the outskirts of Oklahoma City in Township 12-3w, and produced 40 bbls. daily from what is thought to be a member of the Hoover series of sands found most prominently in the Tonkawa district. The sand was found at a depth of 4,800 feet, and the owners have done no drilling aside from the discovery well, as 40-bbl. wells at this depth are very unattractive.

The one feature of the Cromwell well is that it affords the geologist a much better idea of the position of several sands in that area. According to present calculations, the Wilcox sand lies at a depth of approximately 6,000 feet in that locality.

There were no new pools opened in the western part of the State (aside from Logan County), and the progress of the wildcat wells is very slow. In the Oklahoma Panhandle, particularly, several holes were plugged, and little interesting work was accomplished. Grant County, near the Kansas line, experienced two deep showings of oil, but interest waned when they were tested out and found failures.

Extend Burbank Field

One of the most interesting regions in the State has been the east side of the great Burbank Field in Osage County. Starting with a well drilled by the Kewanee Oil & Gas Co. in Section 6-27-6, which at the time was a full mile ahead of development, the territory between it and the outlines of the field became unusually interesting when the Kewanee

OKLAHOMA

Daily Average and Monthly Production in First Six Months of 1927

		January	February	March	April	May	June	Total
Washington County:	Daily average	6,167	6,145	6,139	6,097	6,101	6,088	
	Month	191,177	172,060	190,309	182,910	189,131	182,640	1,108,227
Nowata County:	Daily average	4,766	4,780	4,785	4,771	4,794	4,766	
	Month	147,746	133,840	148,335	143,130	148,614	142,980	864,645
Rogers County:	Daily average	1,643	1,659	1,742	1,835	1,851	1,822	
	Month	50,933	46,452	54,002	55,050	57,381	54,660	318,478
Osage and Eastern Kay Counties—								
Burbank:	Daily average	45,427	46,339	47,613	45,640	45,896	44,983	
	Month	1,408,237	1,297,492	1,476,003	1,369,200	1,422,776	1,349,490	8,323,198
Osage outside Burbank:	Daily average	32,764	32,358	31,117	31,972	31,084	31,477	
	Month	1,015,808	906,024	964,627	959,160	963,604	944,310	5,753,532
Tulsa County—								
Bird Crk., Owasso, etc.:	Daily average	3,785	3,776	3,779	3,785	4,292	3,814	
	Month	117,335	105,728	117,149	113,550	133,052	114,420	701,234
Red Fork, Sand Springs, Bruner, Turkey Mo., and Fisher:	Daily average	5,811	6,390	4,191	4,715	4,824	4,711	
	Month	180,141	178,920	129,921	141,450	149,544	141,330	921,306
Bixby, Leonard and Jenks:	Daily average	2,117	2,071	2,342	2,351	2,707	2,487	
	Month	65,627	57,988	72,602	70,530	83,917	74,610	425,274
Broken Arrow and Coweta:	Daily average	1,058	1,193	1,227	1,190	1,161	1,170	
	Month	32,798	33,404	38,037	35,700	35,991	35,100	211,030
Okmulgee, Muskogee and N. Okfuskee Counties—								
Mounds, Beggs, Hamilton Switch and Youngstown:	Daily average	8,816	8,642	8,590	8,516	8,483	8,383	
	Month	273,296	241,976	266,290	255,480	262,973	251,490	1,551,505
Bald Hill and Haskell:	Daily average	4,878	4,427	3,974	3,711	3,713	3,614	
	Month	151,218	123,956	123,194	111,330	115,103	108,420	733,221
Morris, Boynton, Cole:	Daily average	3,030	2,765	2,946	2,771	2,867	2,641	
	Month	93,930	77,420	91,326	83,130	88,877	79,230	513,913
Okmulgee:	Daily average	2,592	2,592	2,511	2,521	2,475	2,466	
	Month	80,352	72,576	77,841	75,630	76,725	73,980	457,104
Tiger Flats, Henryetta, Schulter, Bartlett:	Daily average	3,229	2,766	2,774	2,636	2,598	2,510	
	Month	100,099	77,448	85,994	79,080	80,538	75,300	498,459
Okfuskee, Seminole and Hughes Counties: Seminole Field—								
Seminole City:	Daily average	176,918	237,448	231,203	207,752	152,428	118,221	
	Month	5,484,458	6,648,544	7,167,293	6,232,560	4,725,268	3,546,630	33,804,753
Earlsboro:	Daily average	3,418	16,868	29,664	43,320	60,866	66,414	
	Month	291,958	472,304	919,584	1,299,600	1,886,846	1,992,420	6,862,712
Searight:	Daily average	.....	29,998	31,152	32,675	35,397	37,370	
	Month	.....	839,944	965,712	980,250	1,097,307	1,121,100	5,004,313
Bowlegs:	Daily average	.....	10,823	20,373	52,144	99,981	144,490	
	Month	.....	303,044	631,563	1,564,320	3,099,411	4,334,700	9,933,038
Ttl. Seminole Field:	Daily average	186,336	295,137	312,392	335,891	348,672	366,495	307,209
	Month	5,776,416	8,263,836	9,684,152	10,076,730	10,808,832	10,994,850	55,604,816
Deaner Lyons:	Daily average	3,572	3,234	3,202	3,066	3,500	3,317	
	Month	110,732	90,552	99,262	90,180	108,500	99,510	598,736
Wewoka:	Daily average	22,025	16,540	16,982	17,646	19,735	19,175	
	Month	682,775	463,120	526,442	529,380	611,785	575,250	3,388,752
Cromwell:	Daily average	13,896	13,531	13,954	13,708	12,885	12,966	
	Month	430,776	378,868	432,574	411,240	399,435	388,980	2,441,873
Papoose-Gilcrease:	Daily average	7,977	7,787	7,215	7,394	7,243	6,842	
	Month	247,287	218,036	223,665	221,820	224,533	205,260	1,340,601
Weleetka:	Daily average	1,021	1,041	1,135	1,058	1,042	1,025	
	Month	31,651	29,148	35,185	31,740	32,302	30,750	190,776
Holm-Jarvis:	Daily average	1,673	1,553	1,473	1,350	1,533	1,488	
	Month	51,863	43,484	45,663	40,500	47,523	44,640	273,673
Yeager:	Daily average	503	488	457	467	523	491	
	Month	15,593	13,664	14,167	14,010	16,213	14,730	88,377
Miscellaneous:	Daily average	2,347	2,447	1,870	1,991	427	1,614	
	Month	72,757	68,516	57,970	59,730	13,237	48,420	320,630
Creek County—								
Cushing-Shamrock:	Daily average	20,875	19,795	19,709	19,443	19,150	19,271	
	Month	647,125	554,260	610,979	583,290	593,650	578,130	3,567,434
Glen Pool-Sapulpa and Kiefer:	Daily average	8,652	8,074	8,380	8,010	7,980	7,972	
	Month	268,212	226,072	259,780	240,300	247,380	239,160	1,480,904
Bristow, Kellyville and Depew:	Daily average	23,891	23,137	22,509	21,975	21,813	21,816	
	Mon.h	740,621	647,836	697,779	359,250	676,203	654,480	4,076,169
North Bristow and Pickett Prairie:	Daily average	2,289	3,287	4,457	3,440	4,309	4,104	
	Month	70,959	92,036	138,167	103,200	133,579	123,120	661,061
Eastern Bristow or Slick:	Daily average	5,102	4,833	4,794	4,696	4,583	4,410	
	Month	158,162	135,324	148,614	140,880	142,073	132,300	857,353
Pawnee County—								
Cleveland:	Daily average	3,963	3,745	3,590	3,407	3,382	3,291	
	Month	122,853	104,860	111,290	102,210	104,842	98,730	644,785
Keystone:	Daily average	3,138	3,539	4,047	3,277	3,015	3,002	
	Month	97,278	99,092	125,457	98,310	93,465	90,060	603,662
Jennings:	Daily average	4,064	3,922	3,813	3,757	3,818	3,740	
	Month	125,984	109,816	118,203	112,710	118,358	112,200	697,271
Otoe or Watchorn:	Daily average	2,784	2,914	2,481	2,290	2,217	2,144	
	Month	86,304	81,592	76,911	68,700	68,727	64,320	446,554
Masham:	Daily average	40	183	40	40	40	39	
	Month	1,240	5,124	1,240	1,200	1,240	1,170	11,214
Ralston:	Daily average	170	40	183	188	177	174	
	Mon.h	5,270	1,120	5,673	5,640	5,487	5,220	28,410
Payne County—								
Yale, Quay, Ingalls:	Daily average	5,475	5,225	5,647	5,630	5,541	5,074	
	Month	169,725	146,300	175,057	168,900	171,771	152,220	983,973
N. Cushing or March Pool:	Daily average	2,532	2,360	2,145	1,797	3,297	3,014	
	Month	78,492	66,080	66,495	51,210	102,207	90,420	454,904
Deep Rock:	Daily average	3,203	3,188	3,667	3,010	2,752	1,214	
	Month	99,293	89,264	113,677	90,300	85,312	36,420	514,266

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well started flowing at the rate of 100 bbls. an hour from the regular Burbank sand at 2,900 feet.

At this time the gap is closed, and what was an extension has now become a part of the field. The Skelly Oil Co. has participated to a good extent in this operation and has about 4,000 bbls. production on one 160-acre lease which commanded a bonus price of $550,000 at the last Osage sale.

To consider the remainder of the fields of the State for the first half of the year is only to report that almost without exception they registered a decline in output and also in activity. Unfavorable price conditions are mainly responsible for this, and it is patent that no operator or company is anxious to map out an extensive program under existing conditions.

A shallow gas field has been discovered and developed in Township 15-17, Muskogee County, where wells having an output of 1,000,000 cubic feet of gas daily are found at a depth of 800 feet.

Pontotoc Looks Better

In the latter part of June, T. B. Slick and others found a pay in Section 21-5-6, Pontotoc County, and the well started flowing 80 bbls. an hour from the Hunton lime at a depth of 2,100 feet. The well has been variously reported, and its status is a matter of doubt, but the consensus of opinion places it at 40 bbls. an hour, of which 40 per cent is b.s. The finding of the Hunton lime at this depth in Pontotoc County is surprising to many who believed that this territory would prove to be steep-dip country, and that the formations would register a very sharp drop. Just south of the city of Ada, Okla., it is thought that the Arbuckle Mountains go under the surface, and for this reason many operators have avoided the area. The finding of oil in the Slick well will in all probability revive the interest in the region.

Big Gassers in Hughes

The gas structure in Section 16-10-9, Hughes County, continues to yield gas wells of large initial output from a member of the Dutcher sand at 3,300 feet, and although many were hopeful that after the gas pressure has lightened and dissipated, oil would be found, the area is still confined to gas production.

The Garber, Tonkawa, Braman regions have been extremely quiet, and offer no interesting news for the first half of the year. With their output slowly dropping, there has been no renewal of the interest which one year ago was very noticeable.

There are no remarkable changes in the percentages of the first half of the year. The figures and averages aside from the heavy initial production are within a reasonable radius of other years.

Oklahoma's Production

Oklahoma produced 129,565,618 bbls. of oil the first half of the year, a daily average of 715,832 bbls. Of this quantity of oil the Seminole area produced 55,604,816 bbls., or a daily average of 307,209 bbls. The Seminole Field produced nearly 43 per cent of all the oil brought to the surface in the first half of the year.

Until February the production of Townships 10-6 (Searight) and 9-6 (Seminole) was carried as Seminole. In February the pools were segregated and the Bowlegs Pool added to the general Seminole Field. Seminole and Searight combined produced 10,838,823 bbls. in six months in 1926 (July to December, inclusive). In the first half of this year the two pools produced 38,809,066 bbls. The Earlsboro Pool, which came into the picture in November, produced 388,460 bbls. in 1926 and 6,862,712 bbls. the first six months of this year. Bowlegs was opened late in January of this year and its production for the half year was 9,933,038 bbls. The total production of the field from the time the first well was brought in down to June 30 of this year was 66,832,099 bbls. No field of high gravity oil has ever approached this record in its first year of development.

Record of Seminole Field

The Seminole Pool (in Township 9-6) reached its peak in February. In that month it averaged 237,448 bbls. a day. In June it had dropped to an average of 118,221 bbls. a day and in July it had fallen below 100,000 bbls. and was steadily declining. The Bowlegs Pool passed the 100,000-bbl.-a-day mark in May and produced 144,490 bbls. a day as an average for June. The production of the Little River Pool in Township 7-6 cut little figure in the first half of the year as the discovery well was not permitted to produce at its best until June 28. The production in June is included in that of Bowlegs.

Outside of the Seminole district nearly every pool in the state was on the decline. The most notable exception was the Sholem Alechem Pool in Carter County, which at the close of the half year was the largest of the southern Oklahoma pools in production, with an average of 16,950 bbls. a day for June. It shows no signs of developing into another Healdton or Hewitt. Seminole saved the state from a severe slump in production as compared with the record of the first half of last year. The production of the state in the first half of last year was 83,428,423 bbls., which was 46,137,195 bbls. less than the production in the first half of this year. There was no Seminole Field in the first half of last year, so it will be seen that had the discovery and development of that area been delayed a year Oklahoma would have suffered a slump in production.

For example, Tonkawa's production for the first half of this year as compared with the first half of last year shows a decline of 2,821,834 bbls., Garber 2,566,213 bbls., Cromwell 922,783 bbls., Burbank 479,060 bbls., Davenport 2,918,341 bbls., while on down the long list of pools in the state a decline is seen in most of them.

Oklahoma Summary, Semiannual, 1927

County—	Comp.	Prod.	Dry	Gas
Carter	115	16,936	23	7
Creek	331	42,573	106	35
Garfield	41	3,853	15	1
Grady	148	13,805	28	42
Kay	149	39,543	36	25
Lincoln	26	1,775	9	0
Muskogee-Wagoner	116	975	74	22
Okfuskee	66	5,724	30	14
Okmulgee	157	2,622	66	29
Osage	265	42,526	73	23
Pawnee	67	2,025	29	3
Seminole	509	714,881	64	8
Stephens-Cotton	87	8,163	39	9
Tulsa	77	3,476	37	8
Logan	4	60	2	1
Love	2	0	2	0
Hughes	30	2,478	16	2
Grant	3	0	1	2
Pittsburg	5	0	2	3
Jefferson	8	74	6	1
Tillman	3	0	3	0
Nowata	16	149	2	0
Texas	5	0	4	1
McIntosh	6	30	3	1
Beckham	4	0	2	2
Caddo	13	549	1	0
Payne	18	695	4	4
Garvin	8	51	3	3
Mayes	1	0	1	0
Rogers	12	19	9	0
Pontotoc	5	571	1	1
Coal	1	0	1	0
Pottawatomie	34	59,644	8	0
Marshall	3	0	3	0
Washington	7	30	3	0
Comanche	11	6	10	0
Major	2	0	2	0
Jackson	1	0	1	0
Noble	4	0	4	0
Kingfisher	1	0	1	0
Canadian	1	0	1	0
Oklahoma	1	40	0	0
Johnson	1	0	1	0
Kiowa	1	0	1	0
Total	2,365	963,276	727	247

Summary by Months

January	439	137,489	141	48
February	348	132,924	96	25
March	386	146,824	113	44
April	458	147,248	144	48
May	372	197,341	125	49
June	362	201,450	108	33
Total	2,365	963,276	727	247
1926	2,545	880,559	789	270
1925	2,436	458,049	721	228
1924	2,619	559,856	666	251

VICTORY FOR GAS RANGE

It's hard to get a Vienna cook to make even a slight change in his way of doing things, but the gas range has won him over. Before the World War he used coal. As coal grew scarce he had to turn to gas or stop cooking. To his amazement he found the new fuel better than the old. Now, although the war is long since ended and the coal yards are anxious to fill orders, the big Vienna hotels are still using gas, and their chefs say that the fuel cost is considerably less than in the days when tradition ruled the kitchen and a coal bin barred the way to modern efficiency.

OIL CONSUMPTION IN JAPAN

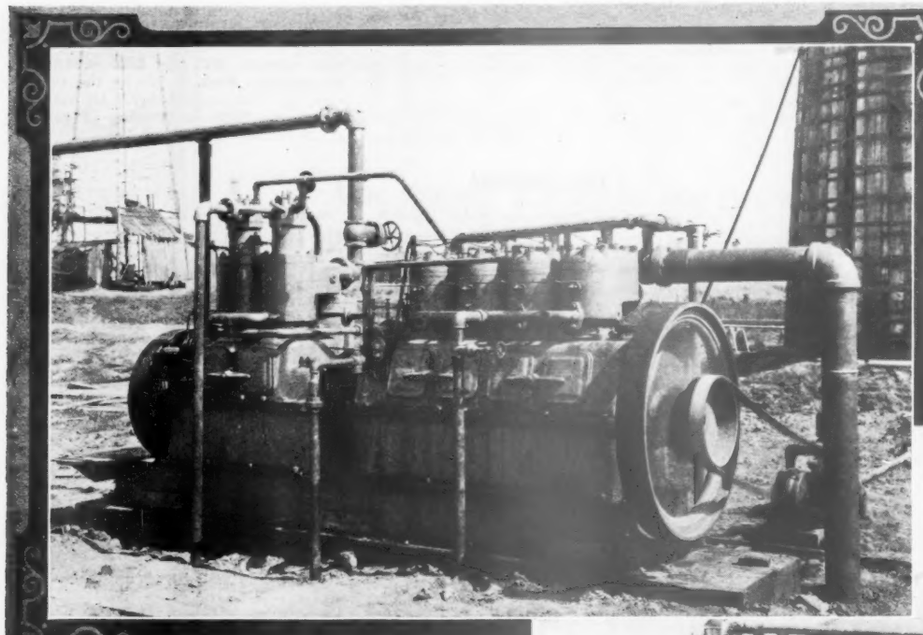
An increase of nearly 60 per cent in Japanese consumption of petroleum products between 1922 and 1925 is indicated by statistics made public by the Department of Commerce today. An estimate places the 1926 importation of gasoline at 29,192,626 gallons.

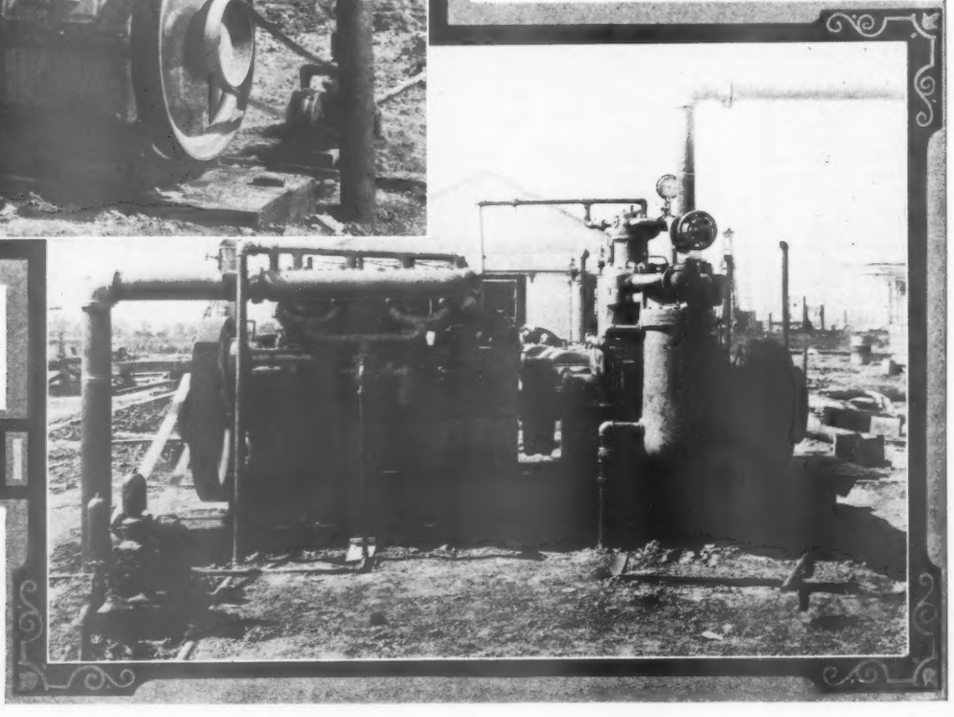
OKLAHOMA

		January	February	March	April	May	June	Total
Lincoln County—								
Stroud:	Daily average	1,670	1,542	1,429	1,539	1,450	1,004	
	Month	51,770	43,176	44,299	46,170	44,950	30,120	260,485
Davenport:	Daily average	4,235	3,947	3,942	3,753	3,555	3,282	
	Month	131,285	110,516	122,202	112,590	110,205	98,460	685,258
Kendrick:	Daily average	694	697	784	643	640	569	
	Month	21,514	19,516	24,304	19,290	19,840	17,070	121,534
Kay, Grant and Noble Counties—								
Blackwell:	Daily average	1,471	1,407	1,525	1,128	1,474	1,363	
	Month	45,601	39,396	47,585	33,840	45,694	40,890	253,006
Otstot:	Daily average	1,903	1,676	1,725	1,562	1,390	1,441	
	Month	58,993	46,928	53,475	46,860	43,090	43,230	292,576
Vernon:	Daily average	580	705	690	656	945	808	
	Month	17,980	19,740	21,390	19,680	29,295	24,240	132,325
Deer Creek:	Daily average	134	118	182	650	685	616	
	Month	4,154	3,304	5,642	19,500	21,235	18,480	72,315
Ponca City:	Daily average	740	759	761	758	754	749	
	Month	22,940	21,252	23,591	22,740	23,374	22,470	136,367
Mervine:	Daily average	284	277	261	261	312	299	
	Month	8,804	7,756	8,091	7,830	9,672	8,970	51,123
North Braman:	Daily average	17,303	10,149	10,471	9,782	6,415	3,944	
	Month	536,393	284,172	324,601	293,460	198,865	118,320	1,755,811
South Braman:	Daily average	4,781	4,280	8,447	4,799	3,118	3,612	
	Month	148,211	119,840	261,857	143,970	96,565	108,360	878,803
Hubbard:	Daily average	4,889	6,488	5,769	6,177	7,751	6,490	
	Month	151,559	181,664	178,529	185,310	240,281	194,700	1,132,043
Thomas:	Daily average	1,820	1,483	1,660	1,565	1,521	5,009	
	Month	56,420	41,524	51,460	46,950	47,151	150,270	393,775
Tonkawa:	Daily average	28,957	26,712	25,958	22,274	22,312	21,493	
	Month	897,667	747,936	804,698	668,220	691,672	644,790	4,454,983
Billings:	Daily average	304	334	314	269	291	278	
	Month	9,424	9,352	9,734	8,070	9,021	8,340	53,941
Miscellaneous:	Daily average	174	176	423	477	496	482	
	Month	5,394	4,928	13,423	14,310	15,345	13,860	67,260
Garfield County:								
Garber:	Daily average	21,527	19,546	18,835	17,642	15,754	14,116	
	Month	667,337	547,288	583,885	529,260	488,374	423,480	3,239,624
Carter County—								
Healdton:	Daily average	14,857	14,920	15,062	15,146	15,142	14,937	
	Month	460,667	417,760	466,922	454,380	469,402	448,110	2,717,141
Hewitt:	Daily average	10,252	9,931	10,027	10,153	9,965	9,610	
	Month	317,812	278,068	310,837	304,590	308,915	288,300	1,808,522
Graham:	Daily average	6,602	6,268	5,936	5,823	5,592	5,317	
	Month	204,662	175,280	183,985	174,690	173,352	159,510	1,071,479
Fox:	Daily average	3,786	3,955	3,790	3,776	3,740	3,682	
	Month	117,366	110,740	117,490	113,280	115,940	110,460	685,276
Brock:	Daily average	1,390	1,300	1,294	1,238	1,136	1,121	
	Month	43,090	36,400	40,114	37,140	35,216	33,630	225,590
Tussy or Sholem-Alechem:	Daily average	12,694	13,429	14,503	16,192	16,526	16,950	
	Month	393,514	376,012	449,593	485,760	512,306	508,500	2,725,685
Stephens-Cotton Counties—								
Loco-Milroy:	Daily average	2,291	2,267	2,270	2,261	2,237	2,211	
	Month	71,021	63,476	70,370	67,830	69,347	66,320	408,364
Comanche:	Daily average	795	790	842	802	894	853	
	Month	24,645	22,120	26,102	24,060	27,714	25,590	150,231
Duncan:	Daily average	5,015	5,266	5,363	6,569	5,752	5,664	
	Month	155,465	147,448	166,253	197,070	178,312	169,920	1,014,468
Walters:	Daily average	1,050	882	851	852	851	846	
	Month	32,550	24,696	26,381	25,560	26,381	25,380	160,948
Kilgore:	Daily average	156	157	152	151	154	152	
	Month	4,681	4,396	4,712	4,530	4,774	4,560	27,653
Jefferson County:								
Hambro:	Daily average	2,265	2,158	2,100	2,040	1,946	1,883	
	Month	70,215	60,424	65,100	61,200	60,326	56,490	373,755
Caddo County—								
Cement:	Daily average	1,851	1,946	1,871	1,926	1,983	1,944	
	Month	57,381	54,488	58,001	58,080	61,473	58,320	347,743
Garvin County:								
Robberson:	Daily average	2,922	2,842	2,852	2,813	2,793	2,716	
	Month	90,582	79,576	88,412	84,390	86,583	81,480	511,023
Grady County—								
Knox:	Daily average	4,076	6,169	6,208	8,283	9,210	9,014	
	Month	126,356	172,732	192,448	248,490	285,510	270,420	1,295,956
Beckham County—								
Sayre:	Daily average	55	61	54	55	57	56	
	Month	1,705	1,708	1,674	1,650	1,767	1,680	10,184
Pontotoc County—								
Allen, Lloyd, Francis:	Daily average	485	481	519	652	649	647	
	Month	15,035	13,468	16,089	19,560	20,119	19,410	103,681
Pottawatomie County—								
Maud and Pearson:	Daily average	316	316	314	1,574	2,186	4,141	
	Month	9,796	8,848	9,734	47,220	67,766	124,230	267,594
Marshall County—								
Madill:	Daily average	112	112	126	128	121	122	
	Month	3,472	3,136	3,906	3,840	3,751	3,660	21,765
	Daily average	614,046	705,441	725,191	740,271	750,273	761,011	715,832
First 6 mos.:	1927	19,035,426	19,752,348	22,480,921	22,208,130	23,258,463	22,830,330	129,565,618
First 6 mos.:	1926	13,674,813	12,392,016	14,312,886	14,468,190	14,507,008	14,073,510	83,428,423
First 6 mos.:	1925	15,462,800	13,905,780	14,403,716	14,055,450	14,442,675	13,832,970	86,104,391
First 6 mos.:	1924	12,292,833	12,236,437	13,336,851	13,462,240	14,247,697	14,447,390	80,013,448
First 6 mos.:	1923	13,328,574	12,046,020	13,958,828	14,399,610	16,668,782	15,572,730	84,963,544

NEW!

Yet field proved~





The two views at left are of the Minnehoma Oil & Gas Company's Clark Vertical, portable compressor, on their Bowlegs lease near Seminole, Oklahoma. This compressor was ordered from us on Friday and was in operation Sunday afternoon.

Clark Bros. Co.
OLEAN, N.Y.

CLARK COM

The CLARK Vertical portable, direct driven compressor

Never in Clark Bros. long record of engineering feats has a Clark product so stirred the Petroleum Industry as has the new CLARK VERTICAL, DIRECT DRIVEN PORTABLE COMPRESSOR.

Instantly accepted because of the great name that stands sponsor for it, the Clark portable compressor is ALREADY FIELD PROVED; more than 15 having been installed for air and gas lift operations.

A partial list of specifications follows, for complete information and bulletin, write Clark Bros. Company or distributors at addresses listed below:

SPECIFICATIONS

Clark Vertical, Direct Driven, Portable Compressor
Model T137—Enclosed Type—Automatic Lubrication

COMPRESSOR—

Two vertical cylinders, each two-stage, 10" x 4⅛" bore x 11" stroke.
Piston displacement, 330 cu. ft. per min.
Actual delivery 330,000 cu. ft. per 24 hrs. at 0 pounds (gauge) intake, to 400 pounds discharge.
Maximum delivery pressure by throttling intake, 1000 pounds.

ENGINE—

Four vertical cylinders, each 8½" bore x 11" stroke.
Power, 75 brake horse power at 400 rev. per min.
Uses natural gas.

ENGINE—

Crank Shaft—main bearings at ends, 4" dia. x 10" long.
Crank Shaft—main bearings intermediate, 4" dia. x 5" long.
Wrist Pin (hardened), 1 15-16" dia. x 5" long.
Cooling water inlet opening, 2" Standard pipe thread.
Cooling water outlet opening, 2" Standard pipe thread.
Fly Wheels, 48" dia. x 6¼" face.

Showing comparative size of New Clark Portable Compressor.

COMPRESSOR—

Crank Shaft—main bearing at ends, 4" dia. x 10" long.
Crank Shaft—main bearings intermediate, 4" dia. x 5" long.
Wrist Pin (hardened), 1 15-16" x 5" long.
Air inlet opening, 4" Standard pipe thread.
Air outlet opening, 1½" Standard pipe thread.
Cooling water inlet opening, 2" Standard pipe thread.
Cooling water outlet opening, 2" Standard pipe thread.
Fly Wheels, 36" x 6¼" face.
Floor space, 15' x 53"—Height over engine and compressor, 85".
Weight (net) 15,900 pounds.

STANDARD EQUIPMENT—

Wet Gasometer—1 set wrenches, including spark plug wrenches and valve lifter.

If sold with air starter: One auxiliary, direct driven, air compressor (the engine using gasoline) and air storage tank with pressure gauge.
Weight 630 pounds.

If sold with friction starter: One auxiliary engine, 6 h.p., using gasoline and friction starter, attached to main engine.
Weight 1400 pounds.

CLARK BROS. COMPANY
Olean, N. Y.
or
125 W. First Street,
TULSA

Warehouses at McCamey and Sweetwater, Texas, and Artesia, New Mexico.

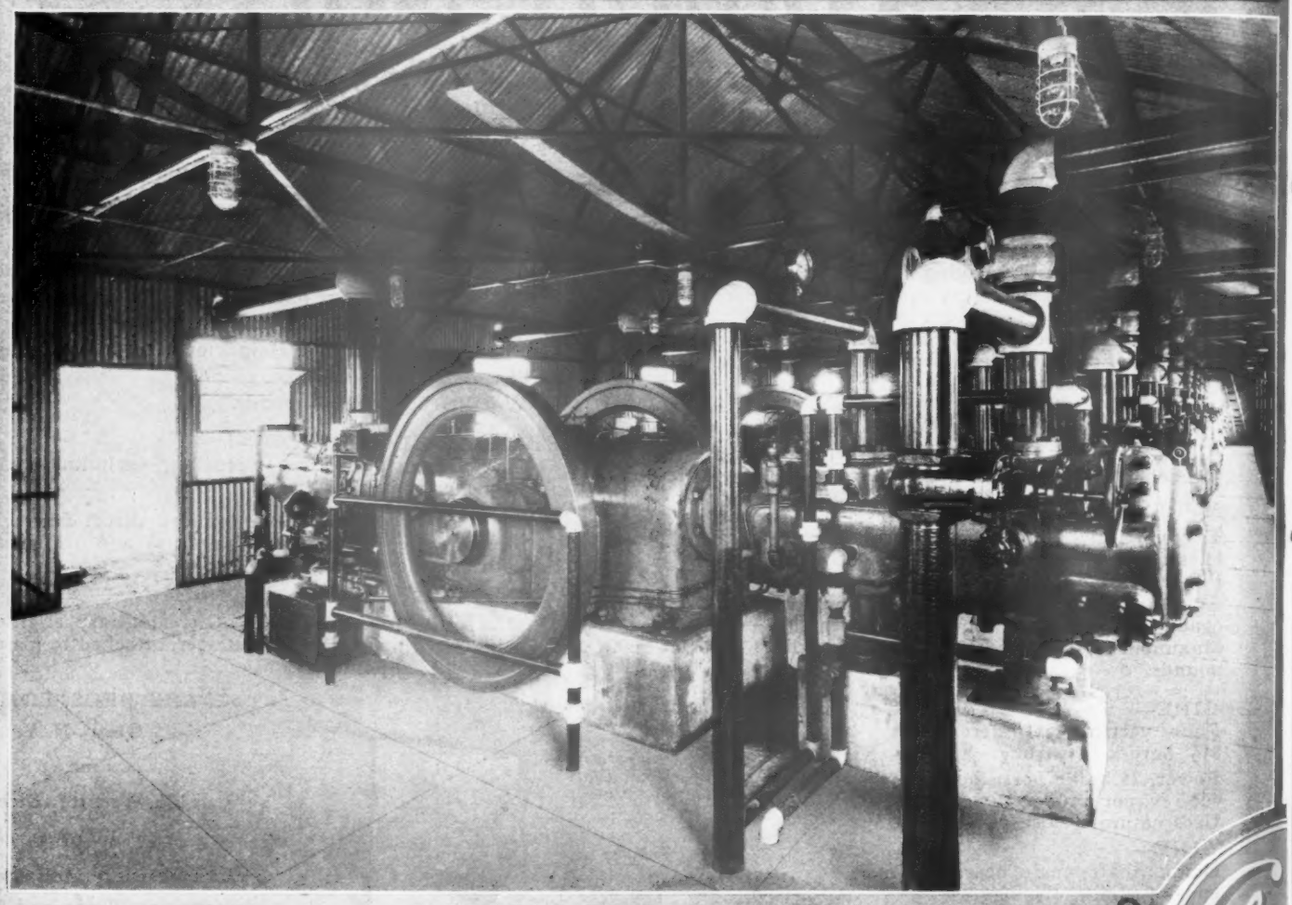
or

SMITH BOOTH USHER COMPANY
125 S. Central Ave., Los Angeles
50 Fremont St., San Francisco

MPRESSORS

I.T.I.O. {Foster Pet. Company}

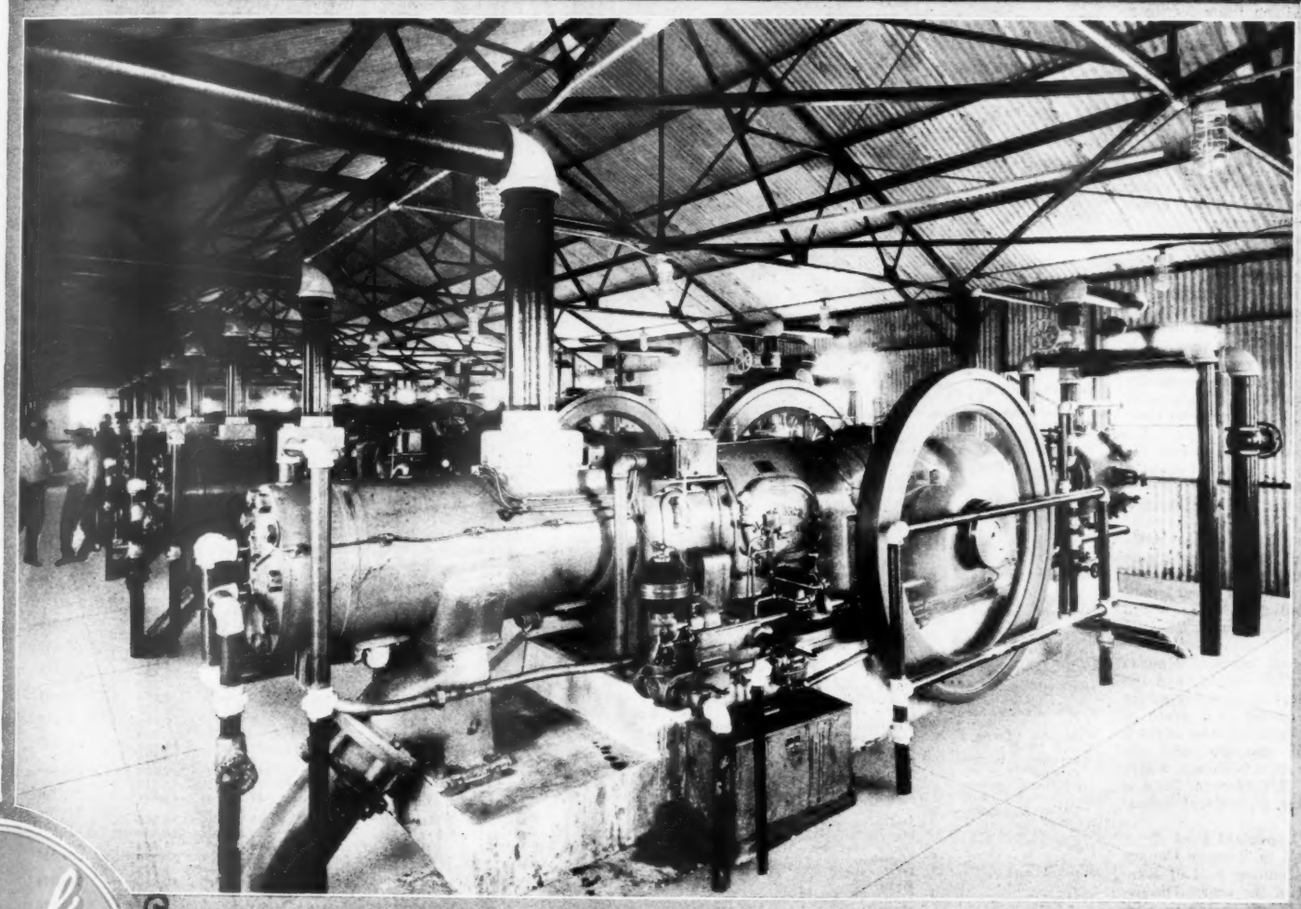
Bowlegs Lease



CLARK BROS. COMPANY
Olean, New York
or
125 W. First Street,
TULSA
Warehouses at McCamey and Sweetwater, Texas; and Artesia, New Mexico.

CLARK COM

Flowing Station
Seminole, Oklahoma



or
SMITH BOOTH USHER COMPANY
125 S. Central Ave., Los Angeles
50 Fremont St., San Francisco

MPRESSORS

Few New Pools Opened in Kansas

Rooks County Gives Promise, Oil Is Found in Sedgwick County, Marion Shows New Pool. Churchill Dominates

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The first six months of 1927 marked the least active period the fields of Kansas have experienced for five years. There was not a single outstanding field discovered during the first half of this year, and the scene of development shifted slightly from the famous old Golden Lane territory in Greenwood County to the Churchill Pool of Sumner County, opened last year, and where the Roxana Petroleum Corp., which discovered and developed the majority of the production, has over 40 wells.

The fact that only 770 wells were completed in the first half of the year tells volumes, as this is the smallest number of completions to be chalked up for a similar period of many years.

Interest in the Kansas Fields seems to be very much on the wane as far as the larger companies are concerned. According to reports from lease brokers and individual operators who depend upon the sales proceeds of acreage around drilling wells to defray the cost of drilling, it is slowly but surely become very much more difficult to interest the major companies in the purchase of protection around wildcat wells in Kansas; and even when their interest is aroused, the prices paid for leases of this sort are much below the figure which similarly situated leases in Oklahoma would command.

One operator who has drilled numerous wildcat tests in the Kansas fields recently made the remark that if two wildcat wells were drilled, one on the Oklahoma side of the state line and the other on the Kansas side, all other things being equal, the price commanded by leases around the Oklahoma well would be at least 25 per cent higher.

In spite of lagging interest, Kansas still has a wonderful oil output, and the performance of several of its fields where good wells may be drilled to a depth of 1,800 feet at a very nominal cost offers a refreshing note when compared with the deeper explorations of Oklahoma where 4,000-foot and even 5,000-foot drilling is the order of the day in wildcat operations.

Churchill an Important Pool

The Churchill Pool in Sumner County is probably the outstanding field of Kansas for the first half of the year. Discovered after a core drilling campaign conducted by the Roxana Petroleum Corp. along the axis of a granite ridge extending southwest from the old fields of Butler County, the Churchill Pool found a productive sand at only 1,800 feet deep. The body of sand in this field contained a very light gas pressure, but the fluid level arose constantly, and swabbing, which was the first method of production attempted, failed to lower the fluid in the holes.

The first two Churchill Pool wells (Nos. 1 and 2 Churchill in Section 15-31-2) produced over 500 bbls. daily on the swab, and after a study of the operation of the air-gas lift equipment in the Oklahoma fields, the engineers of the Roxana decided to attempt the use of this type of production machinery in the Churchill Pool. The air-gas lift was a pronounced success in this field, and was rapidly adopted by other operators in the pool.

The field experienced a slow but steady drilling campaign, and attained a production of 15,000 bbls. At this time it seems well defined, but it has more than a casual interest to the region as a whole, for it marks the finding of production on

(Continued on Page 164)

KANSAS

Daily Average and Monthly Production in First Six Months of 1927

		January	February	March	April	May	June	Total
Marion County—								
Florence:	Daily average	1,013	915	844	843	800	782	
	Month	31,403	25,620	26,164	25,290	24,800	23,460	156,737
Peabody:	Daily average	1,448	1,574	1,473	1,431	1,406	1,379	
	Month	44,888	44,072	45,663	42,930	43,586	41,370	262,509
Covert-Sellers:	Daily average	833	843	816	790	771	760	
	Month	25,823	23,604	25,296	23,700	23,901	22,800	145,124
Lost Springs:	Daily average	.....	.....	.....	375	252	608	
	Month	.....	.....	.....	11,250	7,812	18,240	37,302
Butler County—								
Elbing:	Daily average	2,550	2,557	2,345	2,638	2,619	2,563	
	Month	79,050	71,596	72,695	19,140	81,189	76,890	460,560
Potwin:	Daily average	399	379	367	462	393	386	
	Month	12,369	10,612	11,377	13,860	12,183	11,580	71,981
Cameron-Robinson:	Daily average	587	628	604	638	593	594	
	Month	18,197	17,588	18,724	19,140	18,383	17,820	109,848
Wilson-Dunkle:	Daily average	1,572	1,479	1,594	1,561	1,541	1,502	
	Month	48,732	41,412	49,414	46,830	47,771	45,060	279,219
Towanda:	Daily average	2,519	2,504	2,701	2,706	2,703	2,691	
	Month	78,089	70,112	83,731	81,180	83,793	80,730	477,635
Fox-Bush:	Daily average	1,322	1,325	1,329	1,285	1,287	1,249	
	Month	40,982	37,100	41,199	38,550	39,897	37,470	235,198
Nuttle-Koogler:	Daily average	2,158	2,121	2,064	2,011	1,971	1,943	
	Month	66,898	59,388	63,984	60,330	61,101	58,290	369,991
Eldorado:	Daily average	7,028	6,924	7,776	7,947	7,857	7,811	
	Month	217,868	193,872	241,056	238,410	243,567	234,330	1,369,183
Smock:	Daily average	306	231	235	232	223	224	
	Month	9,486	6,468	7,285	6,960	6,913	6,720	43,832
Leon-Weaver:	Daily average	2,246	2,322	2,402	1,285	3,229	2,416	
	Month	69,626	65,016	74,462	38,550	100,099	72,480	420,233
North Augusta:	Daily average	1,449	1,341	1,441	2,706	1,328	1 314	
	Month	44,919	37,548	44,671	81,180	41,168	39,402	288,906
South Augusta:	Daily average	1,583	1,631	1,833	1,878	1,869	1,843	
	Mon.h	49,073	45,668	56,823	56,340	57,939	55,290	321,133
Sluss:	Daily average	422	403	347	352	360	354	
	Month	13,082	11,284	10,757	10,560	11,160	10,620	67,463
Benton:	Daily average	.....	70	125	73	64	63	
	Month	.....	1,960	3,875	2,190	1,984	1,890	11,899
Douglas:	Daily average	133	133	133	132	132	131	
	Month	4,123	3,724	4,123	3,960	4,092	3,930	23,952
Keighly:	Daily average	3,671	3,270	3,096	2,858	2,939	2,902	
	Month	110,701	91,560	95,976	85,740	91,109	87,060	562,146
Eastern Butler:	Daily average	1,150	1,185	1,141	1,136	1,234	1,196	
	Month	35,650	33,180	35,371	34,080	38,254	35,880	212,415
Greenwood-Woodson Counties—								
Sallyards:	Daily average	1,409	1,507	1,437	1,495	1,397	1,383	
	Month	43,679	42,196	44,547	44,850	43,307	41,490	260,069
Teeter-Pixley-Scott:	Daily average	13,984	13,257	12,582	11,913	11,024	10,606	
	Month	433,504	371,196	390,042	357,390	341,744	318,180	2,212,056
Virgil:	Daily average	4,431	4,406	4,316	4,383	4,222	4,189	
	Month	137,361	123,368	133,796	131,490	130,882	125,670	782,567
Thrall-Burkett	Daily average	2,939	2,979	2,909	2,714	2,635	2,619	
	Mon.h	91,109	83,412	90,179	81,420	81,685	78,570	506,375
Seely:	Daily average	13,531	13,454	12,389	11,691	11,453	10,990	
	Month	419,461	376,712	384,059	350,730	355,043	329,700	2,215,705
Polhamus:	Daily average	1,577	1,583	1,497	1,572	1,514	1,506	
	Month	48,887	44,324	46,407	47,160	46,934	45,180	278,892
Miscellaneous	Daily average	4,187	3,854	3,501	2,826	2,669	2,557	
	Month	129,797	107,912	108,531	84,780	82,708	76,710	590,438
Cowley County—								
Rainbow Bend:	Daily average	2,862	2,515	2,360	2,099	2,278	2,144	
	Month	88,722	70,420	73,160	62,970	70,618	64,320	430,210
Slick:	Daily average	1,342	1,415	1,287	1,255	1,313	1,262	
	Month	41,602	39,620	39,897	37,650	40,703	37,860	237,332
Graham:	Daily average	946	769	688	590	582	573	
	Month	29,326	21,532	21,328	17,700	18,042	17,190	125,118
Rock (Twp. 30-4):	Daily average	298	285	351	261	272	269	
	Month	9,238	7,980	10,881	7,830	8,432	8,070	52,431
Clark (Twp. 31-5)	Daily average	264	216	241	205	226	228	
	Month	8,184	6,048	7,471	6,150	7,006	6,840	41,699
Eastman (Twps. 30-6 and 31-6):	Daily average	741	782	856	780	724	714	
Winfield-New Salem (Twps. 32-4, 32-5)	Month	22,971	21,896	26,536	23,400	22,444	21,420	138,667
Miscellaneous:	Daily average	2,741	2,567	2,768	4,073	3,634	3,572	
	Month	84,971	71,876	85,808	122,190	112,654	107,160	584,659
	Daily average	393	345	385	427	439	418	
	Month	12,183	9,660	11,935	12,810	13,609	12,540	72,737
Other Counties—								
Sumner:	Daily average	16,104	16,370	16,747	17,560	19,108	18,365	
	Month	499,224	458,360	519,157	526,800	592,348	550,950	3,146,839
Rice:	Daily average	1,075	1,055	1,304	1,012	2,098	1,844	
	Month	33,325	29,540	40,424	30,360	65,038	55,320	254,007
Russell:	Daily average	3,504	3,396	3,127	2,922	3,049	2,885	
	Month	108,624	95,088	96,937	87,660	94,519	86,550	569,378
Harvey:	Daily average	42	39	55	48	57	49	
	Month	1,302	1,092	1,705	1,440	1,767	1,470	8,776
Chautauqua:	Daily average	2,464	2,462	2,463	2,463	2,463	2,415	
	Month	76,384	68,936	76,353	73,890	76,353	72,450	444,366
Elk:	Daily average	2,844	3,204	3,064	2,452	2,315	2,309	
	Month	88,164	89,712	94,984	73,560	71,765	69,270	487,455
Montgomery:	Daily average	1,826	1,619	1,876	1,876	1,872	1,274	
	Month	56,606	45,332	58,156	56,280	58,032	38,220	312,626
Wilson:	Daily average	218	257	258	257	256	217	
	Month	6,758	7,196	7,998	7,710	7,936	6,510	44,108
Allen:	Daily average	737	742	644	605	611	611	
	Month	22,661	20,636	23,002	19,320	18,755	18,330	122,704
Neosho:	Daily average	568	664	663	620	659	618	
	Month	17,608	18,592	20,553	18,600	20,429	18,540	114,322
Lyon:	Daily average	2,721	2,793	2,438	2,206	2,185	1,984	
	Month	84,351	78,204	75,578	66,180	67,735	59,520	431,568
Miami:	Daily average	664	660	1,136	1,592	2,866	2,155	
	Month	20,584	18,480	35,216	47,760	88,846	64,650	275,536
Franklin:	Daily average	522	457	454	357	357	487	
	Month	16,182	12,796	14,074	10,710	11,067	14,610	79,439
Douglas:	Daily average	55	69	69	69	69	68	
	Month	1,705	1,932	2,139	2,070	2,139	2,040	12,025
Bourbon:	Daily average	16	19	19	19	34	18	
	Month	496	532	589	570	1,054	540	3,781
Woodson:	Daily average	667	666	660	650	630	635	
	Month	20,677	18,648	20,460	19,500	19,530	19,050	117,865
Linn:	Daily average	311	311	235	223	220	220	
	Month	9,641	8,708	7,285	6,690	6,820	6,900	46,044
Anderson:	Daily average	2,893	2,788	2,650	2,283	2,377	2,298	
	Month	89,683	78,064	82,150	68,490	73,687	68,940	461,014
Coffey:	Daily average	261	260	259	250	247	285	
	Month	8,091	7,280	8,029	7,500	7,657	8,550	47,107
Labette:	Daily average	25	27	27	27	27	55	
	Month	775	756	837	810	837	1,650	5,665
Kingman:	Daily average	27	15	14	12	11	10	
	Month	837	420	434	360	341	300	2,692
Reno:	Daily average	137	80	60	66	37	33	
	Month	4,247	2,480	1,260	1,980	1,147	990	12,104
Total:	Daily average	121,609	119,717	118,553	117,231	119,494	114,586	118,541
First 6 months:	1927	3,769,879	3,352,076	3,675,143	3,516,930	3,704,314	2,437,580	21,455,922
First 6 months:	1926	3,250,536	2,877,812	3,334,887	3,330,120	3,616,640	3,366,450	19,676,445
First 6 months:	1925	2,520,858	2,466,660	2,824,534	2,971,110	3,493,266	3,175,440	17,451,868
First 6 months:	1924	2,223,878	2,113,853	2,206,425	2,965,090	2,486,696	2,473,320	13,768,262
First 6 months:	1923	2,638,875	2,360,288	2,588,531	2,624,430	2,852,217	2,797,830	16,862,171

Jimmy Shooter says—

"The Legend of 'Jimmy Shooter'"

For over four years, Bolshevik Time Bombs have been the favorite with oil well shooters—gaining in popularity and in their host of friends month by month.

We consider the friendship of the shooters themselves as the greatest single reason for the success of the Bolshevik, and we take this means of publicly acknowledging our debt to these men.

In creating "Jimmy Shooter" to carry the story of Bolshevik Bombs to the oil producing industry, he represents—not any single individual—but our ideal of the trained "Explosive Expert"—a title which is merited by ALL of the faithful, loyal shooters who are daily giving their best in thought and effort in this extremely hazardous industry.

"Jimmy Shooter" will appear regularly with messages that are worthy of your most careful consideration. Watch for him.

PATENTS PENDING

$50.

ONE PRICE TO ALL

Bolshevik Time Bombs are sold through established Torpedo Companies ONLY, at a standard price of $50.00 to everybody, for the regular and Baby Bolshevik. The twin (with two clocks and two firing mechanisms in one case) sells for $80.00.

Only the Bolshevik is Absolutely Safe!"

This new Safety Device on the Bolshevik Time Bomb provides a *Positive Safety Period of Forty Minutes* to load the bomb and run it to the bottom of the hole. *For Forty Minutes it cannot be exploded.* That little device on the Bolshevik means SAFETY to the shooter, to the customer's lease superintendent, employes, the drilling crew, and the customer's property. Some improvement? You know it is!

Mechanically Operated
Every Moving Part Visible

The Bolshevik Bomb—the Pioneer Time Bomb of the industry, is mechanically operated. You can see every moving part—test it out before putting it down in the well, and KNOW that it is in perfect operating condition. There's no guess-work about it—no wires to short-circuit, no possibilities of grounds or sneak currents. When you use the Bolshevik you KNOW you are SAFE, and that the explosion will occur *at the bottom of the well*—at the exact time you want it.

See your shooter—he carries them

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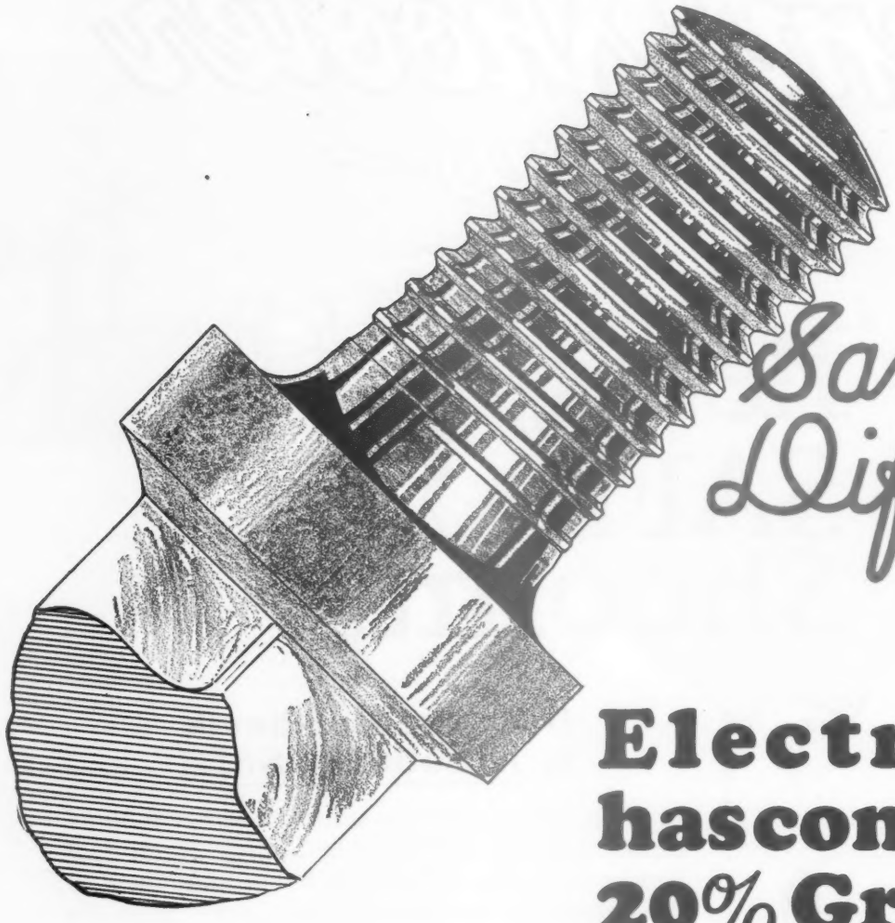

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FORT WORTH, TEXAS

No New Fields in Central Texas

Numerous Small Areas Opened or Developed, but Cooke County Supplied Most of Important Discoveries

By C. D. Lockwood
Staff Correspondent, North and West Texas

The development of Cooke County from a daily average production of 845 bbls. January 1 to 4,205 bbls. July 1 was the outstanding development of the first half year in North Central Texas. Five small oil pools and one gas area were discovered in Cooke County this year, included among them being the Muenster townsite, which is now producing from two different sands, and which is the best pool in the county.

Although 16 new pools were discovered in North Central Texas during the past six months, few of them, aside from the Cooke County finds previously mentioned were of any importance outside of the local region in which they were located. Some of these, in fact, can scarcely be termed pools because they consist of only one well or two. The list includes five in Eastland County, three in Callahan and one each in Coleman, Brown and Young counties.

Few pipe lines were constructed in this area during the six months under review. The Continental Oil Co. built a 4-inch line from the Nocona Field in Montague County to its refinery at Wichita Falls, Sinclair Pipe Line Co. extended a 4-inch line from the Muenster and Hooser Pools in Cooke County to connect with its system in the Nocona Field a distance of 32 miles, and the Ozark Pipe Line Co. (Roxana) laid a 4-inch line from Muenster to Hooser in Cooke County and plans to extend it to Healdton, Okla., where it will connect with the company's trunk line to St. Louis.

Story of Cooke County

The complete story of Cooke County's development was told in The Oil and Gas Journal for June 30, starting on page 50. The record of all discovery wells was given in that article. Following are those which were found this year:

Oil Operators Trust Co.'s No. 1 Ben Luke, located in the southwestern part of the Muenster townsite, struck oil January 10 and was finally completed for 120 bbls. of 38 gravity oil at 1,278-82 feet. This shallow sand proved up over a limited territory and the wells were small. The field was soon outlived, but deeper drilling brought to light another and better pay.

Oil Operators Trust Co.'s No. 2 Kleiss-A was the discovery well of the deeper zone. It found the sand at 1,585-99 feet on April 1 and was good for 250 bbls. of 30.7 gravity crude. This well swabbed as high as 672 bbls. in 48 hours and the other wells in the same sand were good for as much as 750 bbls.

Magnolia Petroleum Co.'s No. 1 Alice Johnson, located in the Johnathan Clark Survey, north of Muenster, opened Cooke County's first gas area February 28. It was good for 3,000,000 feet of gas at 1,179-97 feet. Lynch, Stahl & Burress obtained a gasser offsetting Magnolia on the south, and later the Magnolia found a 10-bbl. showing of heavy 20-gravity crude half a mile north of No. 1 Alice Johnson.

Chapman & Lanier opened a new pool about a mile south of the Hooser Pool limits around April 1 when their No. 1 Montgomery in the T. J. Hutchinson Survey came in for 126 bbls. of 38 gravity oil at depth of 1,310-18 feet. Offsets to this well yielded some excellent production, some of it running as high as 40 gravity, which makes it the best oil in the county.

Northwest of this pool and southwest of the original Bulcher Pool, the Pure Oil Co.'s No. 1 Embry, in the SE cor. of the southwest 80 acres of the Thomas J. Moss Survey, came in about June 6 for 400 bbls. at 1,403½-08 feet. This has also been offset by good wells.

Northeast of Muenster about 2 miles, the Fain-McGaha Oil Co. opened a small shallow pool April 2 when their No. 1 Otto came in for 27 bbls. of 36 gravity oil at 963-67 feet, total depth 970 feet. This is near the center of a large block of acreage owned by the company and little drilling has been done around it.

Some 3½ miles south of the Chapman & Lanier Pool, the Danciger Oil & Refining Co. opened a new area about June 6 with their No. 1 Harris which had previously been taken over from Gist & Grady, and is still referred to as the "Gist & Grady well." After having been shut in for several weeks it was put on the pump and made 62 bbls. in 12 hours but sanded up and had to be cleaned out. This was its status the first week in July.

New Spots in Eastland

In Eastland County, John M. Gholson and Chestnut & Smith's No. 1 Duffer, located about 5 miles south and a little east of Ranger, on the south line of their tract out of the S. N. Mathias Survey, was the first discovery well of the year. It flowed 685 bbls. shortly after January 1 from sandy lime pay at 3,470-71 feet. This well was later drilled to 3,482 feet. The best well in the pool was Gholson and associates' No. 3 Duffer, 360 feet west of No. 1. It flowed 38 bbls. an hour at 3,470-88 feet. Farther west, however, the wells were small and altogether only nine producers were completed in the pool, counting those on the Gulf Production Co.'s tract to the south.

The McAllester or Thomas & Reynolds Pool was the next Eastland County discovery. Thomas & Reynolds and Amerada Petroleum Corp.'s No. 1 McAllester, NE cor. SE, Section 16, Block 3, H. & T. C. Survey, was the first well, coming in January 17, as a result of a 200-quart shot in the Marble Falls sandy lime at 2,984-3,049 feet. It had been drilled to total depth of 3,211 feet and plugged back. Before the shot it had barely a 10 or 15-bbl. showing. During May, this well averaged 73 bbls. and during June it had fallen to 23 bbls.

Three offsets have been completed around this well but that is all. The M. T. C. Oil Co.'s offset was good for 410 bbls. on May 4, at 2,970-3,035 feet and didn't require a shot. During May this well averaged 285 bbls. and during June 213 bbls. Roxana Petroleum Corp.'s north offset, No. 1 Hines, averaged 80 bbls. in May and 10 bbls. in June. Thomas & Reynolds and Amerada's No. 1 Ables, northeast offset, averaged 69 bbls. in May and 23 bbls. in June.

Either an extension to this area or another pool was found April 18, when Cranfill & Reynolds' No. 1 Spencer, located a mile to the southwest, came in making 500 bbls. at 2,976-91 feet. It was later deepened to 3,003 feet and flowed 550 bbls. with a s ring of tools in the hole. Prairie Oil & Gas Co. completed a dry hole in their No. 1 Poe, between the McAllester and Spencer producers, and Cranfill & Reynolds also had a failure on the same 40 acres with their producer. Several wells were drilling in this area at the close of June.

About January 20, Gulf Production Co.'s No. 1 Amis, located 2 miles west of Eastland, began making some oil from the Caddo lime after having produced gas from the Eas land Lake sand for four years. The 6-inch casing was perforated at 2,940-80 feet and it produced 44 bbls. in 19 hours. However, it was abandoned June 17, and plugged.

Teatsworth and others' No. 1 Hargus, 1 mile east of Eastland, was completed February 1 for 25 bbls. from sand at 1,400-20 feet after it had been plugged back from 1,520 feet and shot with 55 quarts. There are now six producers making a to:al of approximately 75 bbls.

Mook-Texas Oil Co.'s No. 3 Minnie Sibley, about 7 miles south of Ranger, in Lot 8, of the Van Norman Subdivision, was a freak well. It struck the Desdemona sand about the last of March and flowed at the rate of several thou-

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Looking for Fields of the Future

Notwithstanding Present Overproduction, the Industry Has Its Eye on the Out Lands of Many States

It seems idle to discuss future wildcatting operations at a time when the industry is groaning under a burden of too much crude, but the fact that the excess is confined to a very few areas has prompted the industry to cast about over the land for the fields of the future, and plans are being laid to explore new territory in all the producing states.

The wildcat play in the Central and West Texas and Panhandle Fields is so closely related to the general operation of those, as yet, partly explored areas that the story is told elsewhere in the general reviews of those fields for the first half of the year. This report on future exploratory work is therefore confined to the states where operators must go far afield to locate new oil regions, and California, Louisiana and Arkansas, Oklahoma and Kansas are featured.

Wildcatting in California

Wildcatting activities in California during the first half of 1927 have extended from one end of the state to the other, but there has been a very noticeable tendency on the part of operators to give more thought to the possibilities of northern California than heretofore. This is a logical move, as practically the entire southern part of the state has been pretty well tested out, and, while new fields will of course be discovered in that section from time to time, it does not have the future possibilities found elsewhere, due to the amount and character of work done during the past four or five years. Wildcatting in southern California is at the lowest ebb reached in years, and that section can expect to run second as far as future intelligent prospecting is concerned. Companies having competent geological advice are transferring their activities to that large area north of the Tehachapi Mountains. The coastal area covering Ventura will also come in for a large part of this play during the balance of 1927. Ventura County right now seems to be on the verge of yielding another new field, in fact everyone who has seen the cores taken out of the Chanslor-Canfield Midway Oil Co.'s two wildcats on the Hobson ranch, west of the prolific Ventura Avenue Field, is willing to bet real money that this concern opens up an oil field before the close of this year. Kettleman Hills, in Kings County, is another promising wildcat area under development at present, and if the water trouble which has been holding up clean production is solved the industry can expect another new field along that uplift. Two wells, the Bolsa Chica's No. 1 and the General Petroleum's No. 1 Burbank, have actually pumped or bailed oil from shallow depths averaging around 2,500 feet, but difficulty with water has prevented the listing of another new field up to the present time.

One could almost predict another new field within the next year for Kern County with certainty unless prospecting work is discontinued, for that section of the San Joaquin Valley is a real oil country. The only reason why more fields have not been opened up heretofore is because wildcatting in that district has been held up since 1923, due to the regular discoveries of high-grade flush oil fields in southern California, which naturally pushed all other work in the background. The transfer of operations to the north, however, should result in frequent future discoveries during the next several years. The Pacific Production Co. (Gulf interests) has a rather promising wildcat in Kern County just now, and the outlook is quite favorable. An early test of this well is to be made, but even though this particular hole should not get production it is almost a foregone conclusion that additional prospecting will be undertaken in this area, as operators do not usually pass up a 15 or 20-foot sand with one well. The Standard deserves to be rewarded with a new field at Camarillo, in Ventura County, and may possibly be instrumental in opening up a new oil field in that section, as some rather promising indications have already been found. The Standard took a long chance at Camarillo because of the prevalence of granitic outcrops nearby, and this company deserves a world of credit, if successful, as many have scoffed at the location.

Elliott & Clarke are pushing plans ahead for a wildcat in Santa Barbara County, and another test is scheduled to get under way in San Luis Obispo County shortly. The Potrero district in southern California is still an unknown quantity and will remain so until the Associated tests out its No. 1 Cypress, which has been standing cemented in a reported oil sand since last November. Many have already condemned this area due to the subsequent drilling of several dry holes, but the Associated's geological staff thinks otherwise.

North Louisiana-Arkansas

Although the north Louisiana and Arkansas division has been fairly well perforated with 2,000 and 2,500-foot holes and the chances of opening any new major pools under these levels have been reduced to a minimum, yet there are districts which offer further possibilities for the wildcatter's bit.

Despite the present lack of market inducements for the bringing in of new production some of these prospective wildcat areas will receive considerable attention the remainder of the year. There may not be an intense wildcatting campaign but the fact that crude is not available freely in this division is forc-

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Gas Dominated in Texas Panhandle

Oil Business Slumped in First Half Year but Gas Industry Started Big Things of Great Significance

By James H. Dameron
Staff Correspondent, Texas Panhandle Fields

Panhandle, like numerous other large areas, weathered the first six months of the current year on the low tide of prosperity. With the inception of the period of depression operators started a movement to regulate operation and production of the field in harmony with the economic conditions. At the end of the first half of the year production evinced the effects of the drilling curtailment program. Drilling fell off sharply during the past three months.

Conditions of a significant nature, however, did not develop as rapidly during the prosperous months of the year as they did afterward. During the last three months three new pools have been discovered and numerous important extensions to older producing areas were made.

Three oil pipe line projects were completed in 1927 and afforded that many outlets for Panhandle crude. Development of the gas business in the huge field was the greatest feature of the half year. More than $50,000,000 has been spent or will be spent by various companies building gas trunk lines out of the field. Two lines have been completed, two more are under construction, the fifth is practically assured and another is proposed. Some venture to predict that the gas business in Panhadle will surpass the oil business there in a few years.

Success in Wildcatting

Of the successful wildcat completions in Panhandle during the first half of 1927, A. D. Morton & Co.'s No. 1 Reeder, Section 191, Block 3-T, T. & N. O. Survey, Moore County, was probably the most significant. It indicates a northwest trend of the Panhandle Field.

The well is being produced by gas lift at present and is good for around 225 bbls., of 32.8 gravity oil. First pay was found at 3,373-75 feet. Later the well was deepened slowly and finally went into water at 3,422½-24½ feet, showing the water table of the Panhandle Field is rising with the northwest trend. The hole was plugged back and the formation shot, but without expected results.

As a result of the Moore County discovery a fairly brisk northwest trend leasing play developed. Some are buying acreage as far northwest as Dallam County. Swisher County, Hartley County and Hansford County were favorable spots in which to buy. However, the campaign for additional acreage was short lived as most companies were more or less protected several miles to the northwest.

Gray County Forged Ahead

Although Carson County held the spotlight early in the year with the development of two pools and the discovery of another that may link those two pools, Gray County forged ahead the latter few months. In that county several important extension wells were drilled and what is believed to be a new pool was opened in the east central part.

That sector showed possibilities when the Nabob Oil Co.'s No. 1, in Section 68, Block 25, was completed as a fair well sometime ago. Other tests strengthened the belief of the existence of a pool there. Then, during the latter part of April, Travis and associates' No. 1 Back, Section 44, Block 25, approximately 4 miles southeast of the Nabob well, started off at 100 bbls. per hour from pay topped at 2,845 feet. The well is producing from 161 feet below sea level and is one of the few wells in Panhandle producing from below sea level. However, No. 1 Back was finally completed as a small producer after having gone into water that ruined its excellent showing. Recently a small pumper was completed a few miles to the north.

Gray County has been the most active wildcat and semiwildcat area in the Panhandle during 1927. Numerous encouraging showings have been found in several places in the county and some of those wells are still in some stages of completion. Especially has the activity around the Wilcox-Pampa Pool been exciting during the year. Extension wells have been drilled around the pool and many believe that eventually the Roxana and McConnell Pools in northeastern Carson County and the Pampa Pool in northwestern Gray County will be linked together. All are in the same trend.

Most interesting of the extension wells was Gulf Production Co.'s No. 1 Saunders, SE SW, Section 40, Block 3. It was drilled to 3,193 feet but did not make a commercial well. On May 9, the formation at 2,969-3,080 feet was shot with 410 quarts and the well made 150 bbls. per hour initially. It is now flowing around 800 bbls. daily. The well was 2 miles east of the northeastern limits of the Pampa Pool. Since then that area has been the most active in the Panhandle and several wells showing for good producers are being completed at the present writing. However, the diagonal southeast offset to the Gulf company's well has been disappointing so far and is to be drilled deeper.

Skelly Opens New Spot

Between the Roxana Pool and McConnell Pool in Carson County, the Skelly Oil Co. either opened a new pool or extended one of the above-mentioned pools. A few months ago that company's No. 1 Henry Schafer, Section 198, Block 3, had the pay at 3,130-61 feet and started off at the rate of 50 bbls. per hour. Subsequent completions in that sector have been much smaller wells.

McIlroy Oil Co.'s No. 1 Ellis Cockrell, NE cor., Section 4, Block B-3, D. & S. E. Survey, opened the McIlroy Pool in southeastern Hutchinson County in February and led to the drilling of two record wells in the Panhandle. Those two wells apparently found characteristic "soft" spots in the lime. The discovery well made 1,080 bbls. initially.

A Record-Breaking Well

Three locations west and one location north, Cockrell-McIlroy Oil Co.'s No. 1 Cockrell, in Section 1, came in on April 23 to break all records in the Panhandle Field. It had the pay at 2,850-51 feet in lime and started off at the rate of 500 bbls. per hour. It was pinched in for a while until storage and pipe line facilities could take care of its maximum output. Until a few days ago the well averaged better than 10,000 bbls. daily but a few days ago it started falling off and cutting badly and was deepened and drowned out by salt water. The hole is now being plugged back in an effort to revive the well.

Shortly afterward McIlroy Oil Co.'s No. 2 E. Cockrell had the pay at 2,922-25 feet and made 630 bbls. in one hour. The well has not been completed. It caught fire a few days after reaching the pay and while shut in. It was shot out after the rig had burned but the tools, which were hanging in the hole, dropped to the bottom. Until a few days ago the fishing job had not been completely cleaned up. However, the well is not expected to hold up at 630 bbls. per hour and many are of the opinion it will not emulate the record of the Cockrell-McIlroy gusher during the first 24 hours. Subsequent completions in the pools have been only small wells and none of the offsets to the big wells has performed sensationally.

A record gas well was drilled in the Panhandle during the first half of 1927. Watchorn Oil & Gas Co.'s No. 1 F. E. Shelton, NE NE, Section 22, Block 24, in the Shamrock area of Wheeler County, had 210 000,000 feet of gas at 1,905-26 feet. The gas was killed and the well is being deepened. The well is in an area where two major gas trunk lines obtain their supply.

Showing in Hale County

Hale County, in the south plains area south of the Panhandle crystallized interest in that general area when a shallow show was discovered. Engleking Drilling Co.'s No. 1 Mullican, Section 21, Block B, R. M. Thompson Survey, 10 miles west of Hale Center, is estimated to be good for a 3 to 5-bbl. well at 407-13 feet. The oil tested 31.2 corrected gravity. The small block on which the well was drilled was taken over by the L. L. Donnell Petroleum Co.

Various companies have been working the South Plains County with geophysical instruments during the last four months. The shallow discovery increased the interest in that area and several new locations have been announced for tests in adjoining counties.

While Panhandle crude is classed by many refiners as undesirable because of its free sulphur content, it nevertheless had a tight market early in the year. Late in January some buyers were paying a 5-cent premium for Panhandle crude. About that time Phillips Petroleum Co. bought out the Gibson Oil Corp.'s holding south of the river. The deal involved approximately 5,000 acres with around 10,000 bbls. production, and it is reported $1,750,000 cash was the consideration.

But as the daily average production of the United States rose, the market started weakening. That combined with the undesirability of the crude made it difficult to find an outlet for when such a volume of "sweeter" crude was available. As a result storage started piling up and during May the storage and pipe line situation in the field was acute. However, during June there was a greater demand for the oil and shipments increased sharply and only about 9,300 bbls. daily went to storage.

Overproduction in other areas and the undesirability of crude prompted operators to start curtailing drilling and production when the first signs of a weak market nationally were observed. In February, there were 486 operations in the field but by June 30 that number had dwindled an even 200 to 286 operations. Production showed a substantial decline due to the lack of new completions and the decision of many operators not to produce their wells at maximum production until conditions improved. During the first week in January, the field's daily average was 144,950 bbls. from 805 wells. On June 30, the daily average was 120,880 bbls. from 1,302 wells. That represents an increase of 497 wells during the six-month period and a drop of 24,070 bbls. daily during the same period.

Panhandle's production during the first half of 1927 was 22,925,094 bbls. and all of that save 7,468,000 bbls. was shipped out of the field. Total storage capacity on June 30 was 23,234,000 bbls. with 18,619,000 bbls. in storage leaving 4,615,000 bbls. of room available.

During 1926, Panhandle crude went to steel storage at the rate of approximately 10,000,000 bbls. yearly. Pipe line reports show it going to storage more rapidly this year with 7,468,000 bbls. going to steel tankage during the first half of the year or at the approximate rate of 15,000,000 bbls. yearly. However, the June pipe line reports show a sharp decrease in oil being run to storage as only 280,638 bbls. went to storage during that month.

Shipping by Pipe Line

Most of the oil is leaving the field through pipe lines. The Gulf-Magnolia line to Ranger, where the line ties into main line systems of both companies, is shipping around 33,000 bbls. south to Gulf ports daily. The Humble Pipe Line Co. is shipping around 30,000 bbls. daily to Comyn, Tex., where the line ties into the Humble company's main line system going to the Gulf. Both lines are 10-inch. The former companies are able to ship more oil because theirs is more of a gravity line while the Humble company's route took that line over a more hilly country. Prairie Pipe Line Co.'s 8-inch line runing to Ringling, Okla., to connect with the Prairie company's main line system is shipping only 2,100 bbls. daily. About the time the Prairie company's line was completed eastern customers of the pipe line company refused to accept any Panhandle crude delivered to them or any crude mixed with Panhandle crude. All three of the oil lines were completed during April of 1927.

Expansion of Gas Industry

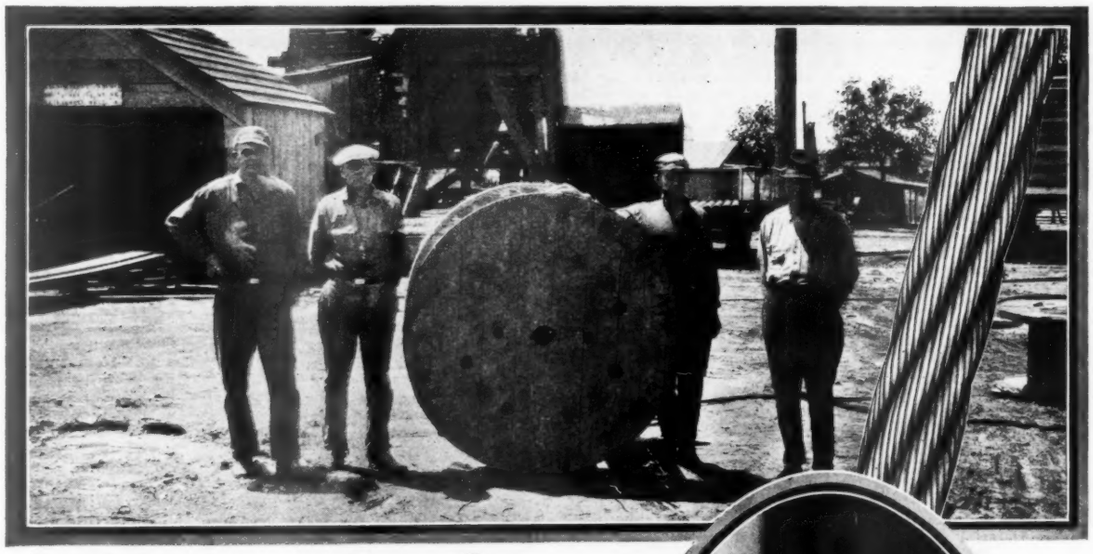
Expansion of the gas industry in Panhandle was gigantic in Panhandle during the first half of the year. More than $50,000,000 has been expended or will be invested in completed lines and in lines being built at present. Lone Star Gas Co., of Dallas, and Northern Texas Utilities Co., of Wichita Falls,

(Continued on Page 168)

TEXAS PANHANDLE

Daily Average and Monthly Production First Six Months in 1927

		January	February	March	April	May	June	Total
Carson County:	Daily average	4,992	6,440	6,296	10,635	13,990	11,966	
	Month	154,752	180,320	195,176	319,050	433,690	358,980	1,641,968
Hutchinson County:	Daily average	113,902	110,333	101,739	103,308	106,947	101,114	
	Month	3,530,962	3,089,324	3,153,909	3,099,240	3,315,357	3,033,420	19,222,213
Moore County:	Daily average	.....	10	10	10	15	70	
	Month	.....	280	310	300	465	2,100	3,455
Wheeler County:	Daily average	1,520	1,443	2,045	2,650	2,561	2,456	
	Month	47,120	40,404	63,395	79,500	79,391	73,680	383,490
Gray County:	Daily average	8,749	7,749	7,749	8,347	11,113	11,510	
	Month	271,219	216,972	240,219	250,410	344,503	345,300	1,668,623
Potter County:	Daily average	.....	35	51	37	25	30	
	Month	.....	980	1,581	1,110	775	900	5,346
Total Panhandle:	Daily average	129,163	126,010	117,890	124,987	134,651	127,146	126,658
	Month	4,004,053	3,528,280	3,654,590	3,749,610	4,174,181	3,814,380	22,925,094
Same period 1926:	Month	157,077	152,264	245,024	393,860	876,897	1,430,400	3,255,522



Wewoka's Largest Well

Drilled with American Wire Line

Magnolia's Bagwell No. 4, Wewoka, which came in April 23rd producing 5,500 bbls. though pinched in, was drilled with an American Steel & Wire Company drilling line. Bagwell No. 4 is Wewoka's largest well from the standpoint of initial production of good oil.

Left to right, the drilling crew are: C. K. Shields, Tooldresser; C. H. Lann, Driller; J. W. Masters, Tooldresser; B. P. Walters, Driller.

AMERICAN Steel & Wire Company's Wire lines lead in the oil fields for one reason only—genuine merit.

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CONTINENTAL

Pipe Lines to Cost Many Millions

Largest Oil and Gas Transportation Programs Ever Executed Were Started or Completed in First Half of 1927

The largest program of pipe line building ever conceived was either closed or started in the first half of this year. The oil and gas industry, when all the work begun has been finished, will have spent many millions of dollars in material and labor to take care of new oil fields in the Mid-Continent and the new gas fields in Texas, Oklahoma, Louisiana and Arkansas.

The year 1927 to date has been a profitable one in Texas for pipe manufacturers. Hundreds of miles of pipe have been laid to connect the Panhandle and West Texas fields with lines already extending from the Gulf to the North Central Texas fields, or northward into Oklahoma. New pipe line routes are being opened from the west Texas districts extending southeastward to the Gulf at Ingleside, near Corpus Christi and another is projected south to Del Rio on the main line of the Southern Pacific railroad.

In addition to the new business acruing to the pipe mills, manufacturers of pumps and engines have also participated as well as the makers of other equipment necessary to the operation of trunk lines, such as steel tanks, material for pumping stations, homes for station employes and sites for the stations.

The Humble Pipe Line Co. will institute an innovation on the line it is now laying from the Crane-Upton fields to tidewater at Ingleside. Some of the pumping stations on that line will be located 60 miles or more from a railroad in a sparsely settled country and it will be necessary to build school houses for the children of station employes and employ teachers for them. Some provision will also be made for religious worship and Sunday schools.

No new lines were laid in the Gulf Coast Plains region, but on the contrary some of the old lines have been taken up. These connected Coastal Pools with tank farms. Late last year the Humble Pipe Line Co. extended its Hull line eastward to Spindletop, a distance of 45 miles. The Gulf Pipe Line Co. laid a small line of 4 miles from the new Stark (La.) Pool to connect with its Vinton-Port Arthur trunk line in February.

The Humble, Gulf and Magnolia Pipe Line companies are the three Texas corporations that made the largest expenditures for extensions to their trunk line systems during the first half of 1927.

More than 1,550 miles of 10 and 12-inch lines have been laid in Texas since last fall by the major pipe line companies, involving the expenditure of approximately $23,000,000.

$15,000 Per Mile

The estimated cost of these lines is figured at $15,000 per mile, which includes the pipe, hauling to the right of way from the railroad, ditching, "doping" and covering; station sites, pumping stations, pumps, engines and steel tanks. The old 8-inch pipe for lines has practically been discarded in favor of 10 and 12-inch pipe.

The larger sized pipe enables the companies to pump a larger volume of crude, the modern lines handling an average of 35,000 bbls. per day at the capacity rate, whereas the 8-inch lines handled from 18,000 to 20,000 bbls. per day. Much depended upon weather conditions and the gravity of the crude being transported. The overhead charges on the modern lines are no greater than on the 8-inch lines, although the original cost of installation is increased.

Tremendous Growth

The immense mileage that has been added to lines in Texas illustrates the tremendous growth of the producing, transporting and refining ends of the industry. More money has been expended for pipe lines in Texas during the past eight months than in the old eastern producing regions since pioneer days. The great area of Texas, with the widely scattered fields is responsible for the big mileage. Sixty per cent of the production from the various fields is pumped to the Gulf Coast, where the large refineries and terminals are located. Such as is not run through the plants on the coast is transported in tankers to the refining centers in New Jersey and other states on the Atlantic Coast. Experience has demonstrated that this method of transportation is cheaper than pumping the crude through lines across the eastern states to the Atlantic Seaboard. The crude shipments in tankers from Gulf ports during the first half of 1927 were 40,719,551 bbls.

In addition to the millions of dollars, millions more have been invested in tankers, docks and loading facilities at points on the Texas and Louisiana coasts of the Gulf of Mexico.

Humble Leads in New Lines

The Humble Pipe Line Co. leads in pipe line mileage, having added some 1,000 miles to its system during the period under review.

The Gulf Pipe Line Co. and the Magnolia Petroleum Co. jointly laid 370 miles to the Panhandle and the Gulf Pipe Line Co. is now completing several hundred miles more to the West Texas districts. In addition long loops have been laid on the old lines to Port Arthur refinery. The Southern Crude Pipe Line Co. has connected the West Texas pools and also laid connections to foreign lines.

The Illinois Pipe Line Co. has entered Texas and projects 140 miles of 10-inch from the Crane-Pecos-Upton sections to Del Rio on the Southern Pacific railroad. The projected line to the point near Ingleside has been abandoned for the present. It would practically parallel the line now being laid by the Humble company.

The Texas Pipe Line Co. has started laying 20-mile loops along the northern part of its trunk line from Oklahoma to the refinery at Port Arthur, extending from near the Red River south. Officials of the Magnolia company have been considering the feasibility of extending its Luling line westward from the Luling Field into the new districts in West Texas. The Luling-Laredo-Beaumont line is the only long welded line in the state.

These are the high spots of pipe line construction in Texas since the Panhandle and west Texas fields were opened. The wide extent of the territory being covered by the wildcatter opens prospects for even greater expansion of pipe line transportation. Lines into the states of Coahuila, Chihuahua and Sonora in Mexico south and southwest from Del Rio are within the range of possibilities, if political conditions in that Republic ever becomes stabilized enough to justify American oil companies starting wildcat development work that is contemplated.

Panhandle's Big Program

The greatest pipe line building program in the industry during 1927 was completed or started in the Panhandle during 1927. Three oil lines with a combined capacity of 88,000 bbls. daily were completed and two gas trunk lines were built, two more are being constructed and right of way is being bought for the fifth.

Prairie Pipe Line Co. completed a 208-mile 8-inch welded line from Kings Mill in Gray County to Ringling, Okla., where the line tied into the main line system of the Prairie company. The line has a capacity of 25,000 bbls. daily but is not being operated to capacity because of the refusal of eastern refiners to use Panhandle crude at the present.

The seven stations are powered by Diesel engines. Stations are located at Kings Mill and McLean in Gray County, Carl in Harmon County, Oklahoma, Blair in Jackson County, Snyder in Kiowa County, Geronimo in Comanche County and Addington in Jefferson County. The line was started last fall and completed in the spring of 1927.

Both the joint Gulf-Magnolia and Humble Pipe Line Co., lines out of the Panhandle connecting with those companies main line systems to the Gulf Coast, were completed in April. The Gulf-Magnolia line started running oil April 14 and is now sending 33,000 bbls. daily south. It is 235 miles long and is a combination 10-inch welded and screw line.

The Humble Pipe Line Co.'s line is a 10-inch welded line and is 360 miles long. It intersects the Humble company's main line system at Comyn in Comanche County, Texas. The Humble company's system goes on south to Galveston. The Gulf-Magnolia line from Panhandle ties into those two pipe line companies at Ranger in Eastland County, Texas.

The Big Gas Lines

Northern Texas Utilities Co., Wichita Falls, Tex., completed a 175-mile 16-inch gas trunk line from the Shamrock area in Wheeler County to Wichita Falls in February. It was the first big gas line to be completed out of the Panhandle. Lone Star Gas Co., Dallas, Tex., recently completed a 200-mile 18-inch combination coupled and welded line from the same field to Petrolia in Clay County. The line ties into the Lone Star Co.'s main line system at Petrolia.

Empire Gas & Fuel Co. has started construction work on a 400-mile 20-inch line from Panhandle to Kansas City, Mo. The line will be completed to Wichita, Kans., and extended on into Kansas City, Mo., at a later date. The Wichita line will be approximately 250 miles in length.

West Texas Gas Co., Amarillo, a Prairie Oil & Gas Co. subsidiary, is building a main line system from northeastern Potter County to the South Plains area. It will terminate at Slaton in Lubbock County and will be 217 miles long. The line starts with 16-inch pipe and 15 and 10-inch pipe is used as the line nears its terminal. Completion of the line will be around November 1.

Interstate Gas Pipe Line Co. is progressing with plans for its 350-mile 22-inch line to Denver, Colo., from the Panhandle. It is reported the company is buying right of way and that the pipe for the line has been purchased. The line will follow a course northwest to Pueblo and then directly north to Denver.

Pipe line men estimated that the completed oil and gas lines, the lines now being built and the Denver line, will represent an investment of $75,000,000. When the proposed Phillips Petroleum Co.'s 22-inch gas line from Panhandle to El Reno, Okla., to connect with the Oklahoma Natural Gas Co.'s system, the total will be boosted materially.

Oil Pipe Lines

The close of the first half of 1927 found the Humble Pipe Line Co. far advanced on the construction of its 10 and 12-inch oil pipe line from the McCamey Field in West Texas to Ingleside on the north side of Corpus Christi Bay on the Gulf Coast. The line is approximately 400 miles long and much of the line is already in the ground, 10-inch from the McCamey end of the line and 12-inch at the terminus at Ingleside where Humble already has six 55,000-bbl. steel tanks and docks for loading vessels to accommodate the deliveries from its line from the Mirando Field built last year. To care for the additional deliveries from the new line with a capacity of 40,000 bbls. a day Humble has started construction of 10 additional 55,000-bbl. tanks and will follow their construction with 20 more. Also their dock facilities for loading out vessels will be greatly increased. The line from the Mirando Field built last years is an 8-inch line and Humble has been shipping oil from the Ingleside port ever since the port was opened November 7, 1926. For the building of its 400-mile line from McCamey to Ingleside and for other construction work, Humble, last April, borrowed $25,000,000 from J. P. Morgan & Co., New York. This line passes within about 12 miles of San Antonio and is nearly a straight line from the field in Crane-Upton County to Ingleside.

The line has been surveyed by the Southern Crude Oil Purchasing Co. for a line from Winkler County over much the same route as that of the Humble for a line also to Ingleside. These plans at this time await the approval of the officers of the company. It is also rumored that the Illinois Pipe Line Co. contemplates a line from the Yates Pool in Pecos to Ingleside. It has announced its third line from that field to run south to the Southern Pacific at Comstock or else Del Rio, a distance of 120 miles, to be 8, 10 and 12-inch and construction on that has started.

Gas Pipe Lines

Southern Gas Co. of San Antonio, which built the first gas pipe line in southwest Texas outside of the Borger gas line from the Jennings Field in Zapata to Laredo, is now surveying a 35-mile extension of its line from San Antonio to New Braunfels and Seguin east of San Antonio.

Houston Oil Co. officials a few weeks ago announced the intention to construct a second gas line from the Mirando Field to Houston to parallel the first line and be about a total of 313 miles in length starting with 12½-inch and terminating with 20-inch, and to cost probably $15,000,000.

Supply a Dozen Towns

Contract was awarded the middle of February this year and work is now far advanced on a 171-mile line being built by the Hope Engineering Co. for the Rio Grande Valley Gas Co. from the Mirando Field south to supply a dozen thriving cities in the lower Rio Grande Valley, terminating with Brownsville. Judge John W. Gaines, of San Antonio, is president of the company. The line is to be completed by October 1 this year and to cost in the neighborhood of $5,000,000. The line is 12-inch to San Benito and the remainder of the distance to Brownsville about 22 miles is to be 8-inch. It will have a capacity of 20,000,000 feet a day and has contracts and estimates of 15,000,000 a day when the line is opened. The distributing systems in the cities of the valley are all part of the system and some have already been completed.

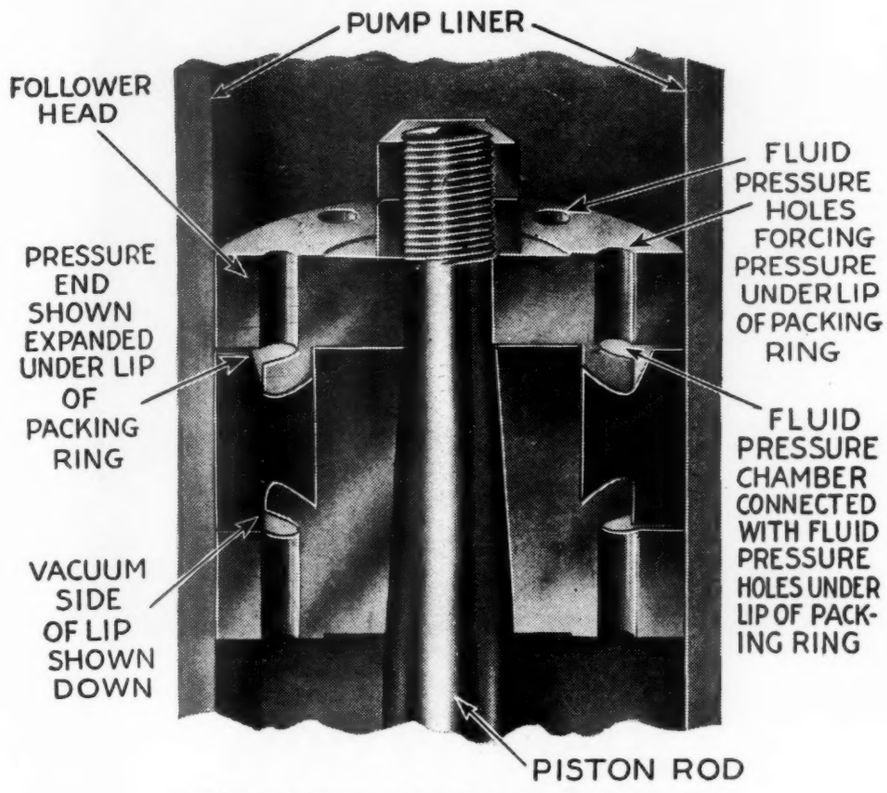
Another line now building is a 35-mile extension of the Houston Gulf Gas Co. line built and in operation for some months from the Refugio gas field to Houston. The line is being extended 35 miles south to the White Point gas field in San Patricio and Nueces counties.

Houston Oil Co. earlier in the year bought the 7-mile gas line from the Kingsville Field in Kleberg County to Kingsville and 1,500 acres in the Kingsville Field and have two rigs in that field one of them already drilling. It is about 50 miles from the nearest point on the Houston's line from the Mirando district to Houston and it is understood to be the company's intention to run a line from the Kingsville Field to this main line as soon as more gas is developed at Kingsville.

Announcement has been made of a gas line to be built by the Southwest Gas

(Continued on Page 167)

Kibele Pistons Mean Greater Economy to the Oil Industry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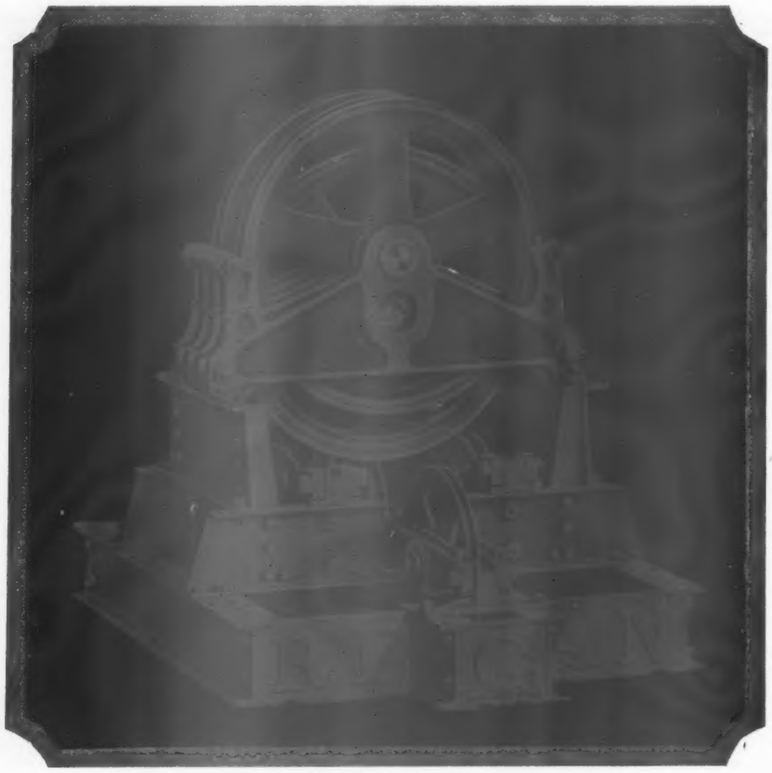

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Gulf Coast Deep Sands of Big Yield

Discoveries in Spindletop and Pierce Junction Had Great Influence on the Field's Increased Production

By P. L. McGreal
Staff Correspondent, Gulf Coast Field

Wells completed in the Gulf Coast Field during the first six months of 1927 total 599, of which 222 were failures, leaving 377 producers. The initial production aggregates 316,455 bbls., which is 125,181 bbls. more than during the first half of 1926. Compared with 1926 wells completed increased 30, new output increased 132,181 bbls., and dry holes and salt water wells increased 16.

The deep sands at Spindletop and on the northwest flank at Pierce Junction loom large as factors that caused the increase in new production, especially Spindletop. Development work there struck its stride last August and has continued since, although it is now giving indications of having been drilled up. The deep sands at Pierce Junction were found late last year in a limited area on the northwest flank of the dome, and, like Spindletop, appear to be reaching the apex. The new output for the period under review at Spindletop was 156,680 bbls. from 98 completions, of which 29 were either dry or salt water wells. Some of the latter eventually became oil wells. The completions for the same period last year numbered 31, with 26,023 bbls. initial output. Nine failures were recorded.

The Pierce Junction Pool completed 46 wells, 6 being failures and 3 gassers. The new production is 38,035 bbls. against 330 bbls. last year. The original production in that pool was on the east flank of the dome, work there having been confined to working over some of the old wells.

An effort was made by the Gulf Production Co., Humphreys Corp. and others to develop the extremely deep sands on the southwest flank of the Sour Lake Pool without success and drilling has been entirely suspended. These sands are below 4,600 and run as low as 5,000 feet. A search for deep sands on the east and southwest sides of the Batson Pool were fruitless. The extension of production at South Liberty to the west side of the Trinity River by the Humble Oil & Refining Co. late last year resulted in a drilling campaign by that company and the Gulf Production Co. on the west side, which collapsed in February. Some producing wells were found, but they went to salt water and no work is now being done there. In fact, practically all the older pools slipped during the first part of this year, which includes Goose Creek, Hull, Orange, Humble and West Columbia. These districts have been defined and their future depends upon the discovery of deeper sands, which is unlikely at the present price for crude.

Such spots as Blue Ridge and Big Creek reflected increased activity, with consequent increases in new output during the past six months. Even, the old Barber Hill prospect in Chambers County, 12 miles northeast of Goose Creek, shows double the number of completions and 4,825 bbls. new output against only 900 bbls. last year. The Bennett Production Co., Humphreys Corp. and Barclay & Meadors found some new production, the first two on the east flank of the dome. The Ryeade Petroleum Co., which controls the Nash Pool on the line of Fort Bend and Brazoria Counties, curtailed operations this year and that pool shows a decline of 1,490 bbls. in new production.

South Louisiana

The Lockport Pool was the active spot in South Louisiana, with 22 wells finished, 3 being dry. The 19 producers yielded 24,300 bbls. new output compared with 14 completions last year and 14,800 bbls. initial production. There has been a decline in drilling there during the past 60 days. The pool is owned and operated jointly by the Vacuum Oil Co. and the Gulf Refining Co. of Louisiana. It is in a marsh and a costly place in which to operate. More than 5 miles of board walks and roadways have been constructed so that material can be placed at locations.

The Vinton Pool recorded 29 wells completed with 2,875 bbls. new production as against 32 completions last year and 4,265 bbls. initial output. Many of the new wells were pumping propositions.

The north side of the Edgerly Pool took on some activity this spring, the Rex Petroleum Co., Hercules Oil and Gulf Refining Co. drilling on the Hunter, the old Paraffin and Bright-Penn leases.

Late in June, the Cline, Smith & Cline Co. got a 500-bbl. well on the Lucky Wilson lease on the northwest side of the Jennings Pool at the comparatively shallow depth of 1,600 feet.

New Pools

The Stark Pool in Calcasieu Parish, Louisiana, across the Sabine River from Orange, was opened by the Gulf Refining Co. in January with a well flowing 2,500 bbls. on the Lutcher-Moore Lumber Co. lands. It was still heading 500 bbls. on July 1. It was followed by another late in June on the same lease, flowing 1,500 bbls. initial at 4,760 feet. The Standard Oil Co. of Louisiana did some development work on lands of the Industrial Lumber Co., turning the lease over to the Gulf Refining Co. three months ago. That company is now drilling No. 6 on the Industrial Lumber Co. lease at below 4,200 feet. Strainer was set and some oil bailed at 4,000 feet, but it was decided to drill deeper.

The Border Research Co. has been wildcatting in Cameron, Calcasieu and Iberia Parishes, drilling on submerged lands in shallow lakes and bayous. The company, of which E. F. Simmons is the leading spirit, has about 1,000,000 acres under lease. Recently a deal was made whereby the Border Research Co. and the Ryeade Petroleum Corp. merge their submerged leases, which combined aggregate more than 2,000,000 acres.

Geophysical exploration work has covered every parish in Southern Louisiana and is to be followed by the drilling of shallow holes with gasoline rigs to check up on the instruments. The Gulf Refining Co., drilling such a test in Ascension Parish off the Sorrento Dome, got gas in June around 1,600 feet. The pressure was so great that a crater was formed into which the derrick and rig toppled. The company is now rigging No. 2 there.

The Pure Oil Co. is drilling two more wells in Sweet Lake, Cameron Parish, 35 miles south of Lake Charles, Louisiana, where it got two producers in October, 1926. One of these is producing from 5,897 feet, which makes it the deepest producer in the Gulf Coast region.

New domes have been located by geophysical means in Ascension, Assumption, La Fourche, Baton Rouge and Iberville Parishes located as follows: Sorrento Dome, northwest of New Orleans, by the Gulf Refining Co. and the Darrow Dome by the same company. The new dome in La Fourche Parish, is near Lutcher, also by the Gulf Refining Co. and the Grassette Dome in Baton Rouge Parish by the Gulf company.

In Iberville Parish, the Union Sulphur Co. has one on Bayou Blue and the Roxana Petroleum Co. one at White Castle. The Union Sulphur Co. and the Standard Oil Co. of Louisiana have one jointly at Bayou Henry and another on Bayou de Glaise. The Union Sulphur Co. proved dome material 10 miles southwest of Donaldsonville, Assumption Parish, in December, 1926.

The indications are favorable for the development of oil production around the old Sulphur Dome, long operated by the Union Sulphur Co. as a sulphur deposit in Calcasieu Parish. The Union Sulphur Co. deepened one of its abandoned sulphur wells there last December to 3,402-3,416 feet and got a well heading 450 bbls., 22 gravity. Two deep tests are drilling there now. Hackberry Island Dome in Cameron Parish, is another prospective pool that will probably show results this year. The Yount Lee Oil Co. is drilling three tests there at present.

Coastal Texas

The Roxana Petroleum Co. has been putting on an extensive drilling campaign around the Allen and Clemens Domes in the southern part of Brazoria County, northwest of Freeport on the east side of the San Bernard River. No. 1 Bernard in the river, 20 feet from the east bank, flowed at the rate of 1,500 bbls. in May at 5,131-39 feet, the bit being 8 feet in the sand. The oil was 31 gravity. The well eventually sanded and crew is now trying to restore it.

Another prospect is the Raccoon Bend district in Austin County, where some shallow oil was found around 1,100 feet. The Humble Oil & Refining Co. and the

(Continued on Page 268)

GULF COAST

Daily Average and Monthly Production for First Six Months of 1927

		January	February	March	April	May	June	Total
Boling:	Daily average	2,418	2,175	1,521	1,919	2,110	1,971	
	Month	74,958	60,900	47,151	57,570	65,410	59,130	365,119
Batson:	Daily average	1,603	1,626	1,524	1,393	1,521	1,337	
	Month	49,693	45,528	47,244	41,790	47,151	40,110	271,516
Blue Ridge:	Daily average	2,897	2,587	2,845	3,113	4,112	4,681	
	Month	89,807	72,436	91,195	93,390	127,472	140,430	614,730
Big Creek:	Daily average	2,575	2,169	4,466	5,231	5,192	4,047	
	Month	79,825	60,732	138,446	156,930	160,952	121,410	718,295
Barber Hill:	Daily average	594	566	975	1,160	900	734	
	Month	18,414	15,848	29,335	34,800	27,900	22,020	148,317
Dayton:	Daily average	67	67	56	39	32	30	
	Month	2,077	1,876	1,736	1,170	992	900	8,751
Damon Mound:	Daily average	926	988	962	935	924	895	
	Mon.h	28,706	27,664	29,822	28,050	28,644	26,850	169,736
Edgerly (La.)	Daily average	599	857	930	672	662	1,106	
	Month	18,569	23,996	28,830	20,160	20,522	33,180	145,257
Goose Creek:	Daily average	8,087	7,731	7,451	8,565	8,851	8,287	
	Month	250,697	216,468	240,961	256,950	274,381	248,610	1,488,067
Humble:	Daily average	4,057	3,873	3,985	4,243	4,395	4,436	
	Month	125,767	108,444	123,535	127,290	136,245	133,080	754,361
Hull:	Daily average	17,127	17,237	16,682	16,978	19,477	17,044	
	Month	530,937	482,636	517,142	509,340	603,787	511,320	3,155,162
High Island:	Daily average	326	737	602	472	405	215	
	Month	10,106	20,636	18,662	14,160	12,555	6,450	82,569
Jennings (La.):	Daily average	807	1,057	1,049	952	968	1,078	
	Month	25,017	29,596	32,529	28,560	30,008	32,340	178,050
Lockport (La.):	Daily average	3,090	3,412	4,437	7,540	6,977	6,667	
	Month	95,790	95,536	137,547	226,200	216,287	200,010	971,370
Markham:	Daily average	560	553	567	520	462	447	
	Month	17,360	15,484	17,577	15,600	14,322	13,410	93,753
Nash Pool:	Daily average	816	614	861	965	1,102	1,363	
	Month	25,296	17,192	27,691	28,950	34,162	40,890	174,181
Orange:	Daily average	6,376	5,411	5,154	5,298	5,610	5,875	
	Month	197,656	151,508	159,774	158,940	173,910	176,250	1,018,038
Orchard:	Daily average	73	57	42	38	174	146	
	Month	2,263	1,596	1,302	1,140	5,332	4,380	16,013
Pierce Junction:	Daily average	6,287	7,530	11,056	7,716	9,080	7,767	
	Month	194,897	210,840	341,736	231,480	281,480	233,010	1,493,443
Piedras Pintas:	Daily average	182	200	170	113	84	90	
	Month	5,642	5,600	5,270	3,390	2,604	2,700	25,206
Spindletop:	Daily average	81,750	69,130	60,075	51,000	54,150	60,525	
	Month	2,534,250	1,935,640	1,862,225	1,530,000	1,678,650	1,815,750	11,356,515
Saratoga:	Daily average	1,192	1,235	1,205	1,165	1,135	1,122	
	Mon.h	36,952	34,580	37,355	34,950	35,185	33,660	212,682
Sour Lake:	Daily average	4,765	5,418	5,402	4,932	4,639	4,565	
	Month	147,715	151,704	167,462	147,960	143,809	130,950	889,600
S. Liberty-S. Dayton:	Daily average	4,101	4,153	4,034	3,770	3,429	2,978	
	Month	127,131	116,284	125,054	113,100	106,299	89,340	677,208
Stark (La.):	Daily average	.....	.....	2,625	1,422	1,144	1,033	
	Month	.....	.....	80,375	42,660	35,464	30,990	189,489
Vinton (La.):	Daily average	5,640	5,675	5,230	5,476	5,226	4,950	
	Month	174,840	158,900	162,130	164,280	162,006	148,500	970,656
Welsh-Anse La Bute, (La.):	Daily average	72	74	60	54	38	26	
	Month	2,232	2,072	1,860	1,620	1,178	780	9,742
West Columbia:	Daily average	10,502	10,271	10,339	10,177	9,224	9,227	
	Month	325,562	287,588	310,509	305,310	285,944	276,810	1,791,723
*Miscellaneous:	Daily average	1,297	2,082	1,746	1,494	1,596	1,312	
	Month	40,207	58,296	53,126	44,820	49,476	39,360	285,285
Total:	Daily average	168,786	157,485	156,051	147,352	153,617	153,754	
	Month	5,232,366	4,409,580	4,837,581	4,420,560	4,762,127	4,612,620	28,274,834
Total same months 1926		3,023,877	2,820,608	3,034,683	2,842,050	3,208,721	2,849,970	17,779,409
Difference		2,208,489	1,588,972	1,802,898	1,578,510	1,553,906	1,762,650	10,495,435

*Includes Washington, Kleberg and Nacogdoches Counties in Texas, and Cameron, Calcasieu and Iberia Parishes in Louisiana.

New Gas Fields in Southwest Texas

Developments in the First Half of Year Featured by Important Gas Discoveries in Several Counties

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

The feature of the development work in southwest Texas for the first six months of 1927 was unquestionably the development of natural gas. There were 109 gas wells completed and the total open flow was 2,986,235,000 feet, and over one-third of this was in Duval County in the area including the Cole Field and extending south to and including the O'Hern & Seacord Field. In that field from which gas is being taken by the Houston Oil Co. to supply its pipe line to Houston and by the Southern Gas Co. to supply its line to San Antonio there was a total of 35 wells completed with a total of 1,168,000,000 feet of gas open flow. In Jim Hogg County southwest of the Cole and O'Hern & Seacord fields 12 gas wells were completed with a total of 241,000,000 feet of gas and in Webb County there were 11 wells completed with 274,000,000 feet of gas. A great deal of this in Webb County is represented in new wells discovering new gas fields. The second gas field of prominence in southwest Texas is the Refugio Field where 17 wells were completed with a total of 456,000,000 feet and Medina County's Adams gas field is prominent with 14 wells and 255,000,000 feet of gas.

In the four counties, Duval, Webb, Jim Hogg and Zapata in the Mirando district there were drilled a total of 62 gas wells with a total of 1,777,000,000 feet of gas. The Mirando district, Refugio, Medina, and the White Point district on the coast represent the areas where gas development was most prominent and this is shown in the following table:

Districts by Counties	Total Comp.	Gas Wells	Volume Cu. Ft.
Mirando—			
Duval	65	35	1,168,000,000
Jim Hogg	60	12	241,000,000
Webb	64	11	274,000,000
Zapata	44	4	94,000,000
Refugio—			
Refugio	18	17	456,000,000
Adams—			
Medina	41	14	255,000,000
White Point—			
Nueces	3	3	90,000,000
San Patricio	7	3	90,000,000
Cartwright—			
Live Oak	4	4	135,000,000
Kingsville—			
Kleberg	6	1	80,000,000
Luling—			
Caldwell	36	1	3,000,000
Gas Ridge—			
Bexar	26	2	235,000
		109	2,986,235,000

The comparison is with the total wells drilled in these particular counties out of southwest Texas in which there was gas development.

Five New Gas Areas

Five new gas areas were discovered in the Mirando district in Webb, Duval, Zapata and Jim Hogg Counties during the first six months of 1927. Primary importance probably attaches to the Cole Petroleum Co.'s No. 2 field in Webb County 4 miles due west of the first Cole gas field and producing in a sand about 600 feet deeper than in the first field. The discovery well is No. 36 Benavides completed April 22 at 2,328-36 feet, cased with 8¼-inch casing and estimated at around 75,000,000 feet with rock pressure of 730 pounds. Since then No. 44, located 1,500 feet south has been completed in sand at 2,322-39 feet but cased with 5 3/16-inch and estimated at about 25,000,000 feet and No. 46 has been completed about 1,500 feet northeast a gas well of around the same size. Both 36 and 46 are making some oil and No. 47 located 2,400 feet east of No. 36 is drilling. Sand depth of No. 46 is 2,337-39. This area is 4 miles northwest of the town of Bruni on the Texas Mexican railroad and 6 miles east of Oilton on the same road.

30,000,000-Foot Gasser

A half mile south of the town of Bruni, Killam and Maddox, June 3, completed the No. 1 Bruni, a 30,000,000-foot gas well at 2,317 feet, 2 or 3 feet into the sand. This well had a gas blowout from a sand at 528 feet that was estimated to be good for several million feet. Though the depth in number of feet is about the same as in the Cole No. 2 field the sand is undoubtedly a shallower sand because the dip is from the Cole wells toward the Killam-Maddox well. Additional drilling has not been started in this area. Nearest production in the first Cole gas field is only about a mile or less to the east but it is in an entirely different sand, hence the well at Bruni opens up a new gas area and has proven out two sands.

A third new gas area in the Mirando district discovered during the first half of 1927 was discovered by the drilling of the No. 1 Bruni in Block 65 of the Albercas grant, 10 miles southwest of the town of Bruni and 4 miles east of the Aviator oil pool. O. W. Killam, who was the original discoverer of the Mirando district, as well as of many of the new producing spots in the field and of the gas field at the town of Bruni was also, in association with C. O. Maddox, the discoverer of this gas area. Their No. 1 Bruni, in Block 65, completed March 3, in sand at 2,137-44 feet, is a 50,000,000-foot gas well. Since then Killam has drilled his No. 1 in the same block, a 25,000,000-foot gas well in sand at 2,158-67 feet, and his No. 2, a 5,000,000-foot gas well at 2,187 feet, and the No. 3 Bruni, in Block 64, a dry hole at 3,715 feet, and abandoned.

Another interesting gas discovery was made by the Magnolia Petroleum Co. in northwestern Duval County. It is the No. 1 Hahl, in Survey 51, and at 4,070-94 feet it was completed and made 1,500,000 feet of wet gas. The well is near the Reynosa Escarpment near which much of the production in the Mirando district is located and a map showing the location of the well with reference to the older production was published in The Oil and Gas Journal, May 26, on page 58.

The fifth new gas area in the Mirando territory was opened in Zapata County near the old Jennings gas field and the Magnolia, Texas and O. W. Killam have all had a hand in the discovery. February 14, the Magnolia got a 3,500,000-foot gas well at 1,340 feet, in Survey 245, 2 miles east of the Jennings gas field with its No. 3 Cuellar. O. W. Killam followed it up and June 9 brought in his No. 1 R. B. Cuellar, a few hundred feet east and a little south of the Magnolia's well at 1,359 feet with 600 pounds rock pressure and testing about 40,000,000 feet of gas. South of the old Jennings gas field and southwest of the Magnolia and Killam wells about 4 miles, The Texas Company, March 26, got 50,000,000 feet of gas and 700 pounds rock pressure in its No. 4 Jennings, at 1,955-61 feet.

Small Oil Pool Opened

Humble Oil & Refining Co.'s No. 4 Kohler, in Duval County, 10 miles due north of the Cole gas field, was completed April 22, and on the pump made a 20-bbl. well from sand at 2,697-2,705 feet. It is 10 miles northeast of the Carolina-Texas gas field in Webb County, and it and the Cole Field represent the nearest production. Reiter-Foster own a fourth interest with the Humble. The No. 6 Kohler, located 600 feet west of it is in a sand at 2,283-92 feet. The new discovery is close to the Reynosa Escarpment and its location was also shown in the map published in The Oil and Gas Journal, May 26, on page 58. The well is too small to make the field seem of much importance yet. Humble and Reiter-Foster have all the acreage around it and their further drilling will disclose whether it is going to be a field or a pimple.

There were two wells drilled in the proven shallow area of the Mirando Field that are worth mention, though both were failures. One was the Crown Central's No. 10 Garcia drilled in the Schott Field to a total depth of 4,751 feet. It was dry. The other was George M. Ball's No. 4 Puig, in Block 74 of the Puig tracts in the Aviator Pool, which was abandoned as a failure at 3,812 feet after it had shown a little oil and after continued efforts to nurse it into a well. They added nothing outside of the geological information gained but are mentioned because they were the deepest tests ever drilled in the proven area and because the talk is to drill deep.

Rycade in Maverick

Probably as important a well as any in all southwest Texas is the Rycade's No. 1 Chittim in Block 7, Section 129, of Maverick County, 17 miles east of Eagle Pass. It went into a gas showing at 5,517 feet late in 1926, and is still uncompleted. At 5,592 feet, with the drill lost in the hole, it has 28,900,000 feet of gas and about 75 bbls. of oil mudded off while it is fishing for the lost drill. It is 100 miles from any production and the importance of the well is its wildcat position and the indications of production and the further fact that the production is coming from the Trinity, found production for the first time in this well.

Sales and Trades

Sales have not been plentiful in southwest Texas during the first half of 1927. Probably the most important was a $600,000 deal in which O. W. Killam of Laredo sold to the Southern Gas Co. 25 gas wells in the Carolina-Texas and Cole gas fields in Webb and Duval Counties with considerable acreage in connection. The sale was made to William F. Morgan for the account of the Southern Gas Co. with Morgan having a half interest on which Southern had an option. It is understood Southern will exercise this option.

A sale of considerable importance is that of the Elliott Jones & Co. refinery at San Antonio with a capacity of about 5,000 bbls. daily, and which has been shut down for several months, to the Southern Crude Oil Purchasing Co. Consideration has not been announced. The refinery is being dismantled for removal elsewhere.

The Southern refinery at Somerset, earlier in the year, was bought by C. L. Witherspoon after it had been closed down for a couple of months and the Witherspoon Refining Co. organized which later reopened the plant and is operating it.

Southwest Texas' Future

Discoveries made during the first half of the year 1927, scattered over all of southwest Texas from the Mexia Field on the north to the Rio Grande and Gulf on the south, will point the way to some of the wildcatting for the last half of the year. Two of these scattered wells are about 300 miles apart. The Rycade Oil Corp.'s No. 1 Chittim in the northwest corner of Section 129, Block 7 of Maverick County, at 2,592 feet with tools stuck in the hole gauged 28,920,000 feet of gas and was estimated at 75 to 100 bbls. of high-gravity oil, much of which was not saved. It is in the Trinity sand, heretofore supposed to carry only water and is mudded off while fishing for the tools, all of which is out but the bit. Three miles west of Mexia the Steubenrauch well of E. L. Smith Oil Co. and others in the Trinity sand at 5,730 feet had several million feet of gas. Each is about the same distance removed from the Balcones fault and 300 miles apart. While neither well was completed by June 30 that amount of production is enough to constitute a guiding star to operators all over that 300-mile stretch of country wherever there is a structure to warrant drilling. Either or both of the wells completed as good commercial wells will add much weight to the argument.

Refugio District Gives Promise

Late in the first half of the year William F. Morgan, Inc., one of the newer but one of the extensive operators of southwest Texas, found a good showing of oil at around 2,800 feet in the No. 1 Ryals on the southeast edge of the Refugio gas field in Refugio County, a showing enough to cover the ditch solid. It is 2 miles west of the town of Refugio, in the center of the east half of Block 8. This is the first important showing of oil in that field which is furnishing about 60,000,000 to 80,000,000 feet of gas daily to Houston. The well was at 3,000 feet and standing on June 30. There was not enough sand to make a well, but it adds weight to the coast country as a territory for wildcatting. At White Point, years ago, there were some gas blowouts, which to describe the size only brings discredit on one's

(Continued on Page 268)

SOUTHWEST TEXAS

Daily Average and Monthly Production for First Six Months of 1927

Field—		January	February	March	April	May	June	Total
Luling:	Daily average	18,214	18,145	18,285	18,214	16,850	16,343	
	Month	564,634	508,060	566,835	546,420	522,350	490,290	3,198,589
*Mirando:	Daily average	16,197	15,247	14,462	14,376	13,930	13,350	
	Month	502,107	426,916	448,322	431,280	431,830	400,500	2,640,955
Somerset:	Daily average	1,847	1,671	1,494	1,240	1,205	1,207	
	Month	57,257	46,788	46,314	37,200	37,355	36,210	261,124
Calliham:	Daily average	51	42	40	40	30	28	
	Month	1,581	1,176	1,240	1,200	930	870	6,997
Rockdale-Minerva:	Daily average	990	977	974	915	1,026	1,077	
	Month	30,690	27,356	30,194	27,450	31,806	32,310	179,806
Lockhart:	Daily average	2,884	2,322	2,244	2,307	2,192	2,000	
	Month	89,404	65,016	69,564	69,210	67,952	60,000	421,146
Miscellaneous:	Daily average	.....	.....	165	.....	.....	.....	
	Month	.....	.....	5,115	.....	.....	.....	5,115
Total:	Daily average	40,183	38,404	37,664	37,092	35,233	34,006	
	Month	1,245,673	1,075,312	1,167,584	1,112,760	1,092,222	1,020,180	6,713,732
Total same months 1926		1,233,397	1,100,720	1,220,842	1,176,630	1,208,163	1,162,020	7,101,772
Difference		12,276	26,408	53,258	63,870	115,940	141,840	388,040

*Includes Webb, Jim Hogg and Zapata Counties.

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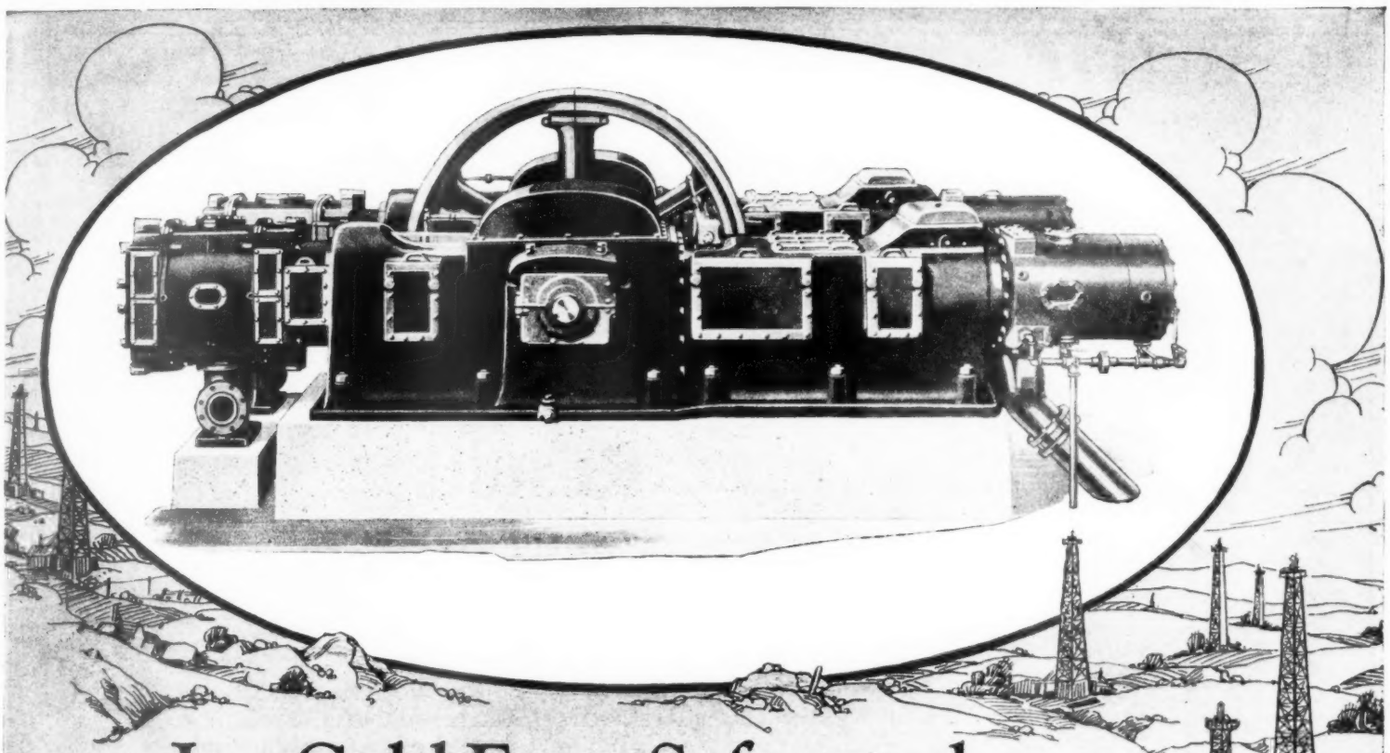

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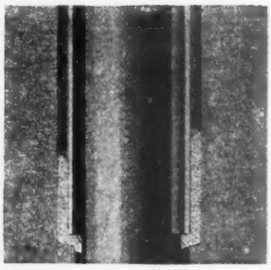

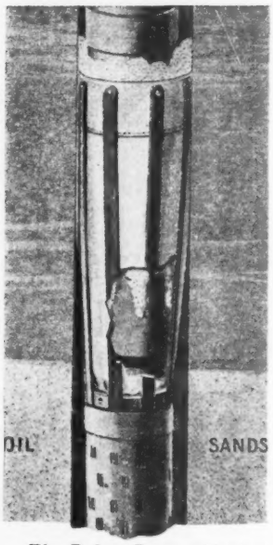

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Floods Slowed Louisiana-Arkansas

Falling Off in Completed Work and New Production in the Two States. Trinity Sand to Get Big Play

By Neil Williams
Staff Correspondent, Louisiana-Arkansas

Unfavorable market conditions with repeated slashes in the price of crude resulted in the first six months of 1927 being a period of retrenchment rather than expansion in the oil industry of the North Louisiana and Arkansas division.

Further handicapped by a long spell of high water in March, April and May in most areas forcing an almost total cessation of operations in fields affected, the division is only now getting back to a preflood basis and resuming field development.

The loss suffered by the oil industry in Arkansas and North Louisiana by flood through damage to equipment and properties, curtailment of production and waste of time, mounted into the millions of dollars hard to estimate.

Flood Cost Millions

The Smackover Field of Arkansas, the Monroe district, the world's largest gas field both in area and open flow capacity, and the new Richland Parish gas field were the most seriously hit by the high water. The latter two were in the direct sweep of both the Mississippi flood and the onrush of water from the overflow in Arkansas. There, all drilling was completely suspended for three weeks and enormous losses were heaped on gas meters and other equipment. In Smackover, which was a sea of water, scores of settled producing wells were forced off the pump resulting in a sharp drop in oil output from which the field has not recovered.

Yet operators of this division have not complained. They gave of their time and means to aid in general flood relief during the period of emergency, and now that the crisis is over they are going about the rehabilitation of their own properties and development.

The general curtailment of operations as it affected proved and old settled fields of the division is most clearly reflected in the production figures. As the year opened the daily average production in Arkansas and North Louisiana was running better than 190,000 bbls. Failure of the division to uncover any new major production and the decline in settled output of the old pools cut the 190,000 bbls. to around 162,000 bbls. daily on July 1.

This was despite the fact that on July 1, there were 8,617 producing wells in the division, as against 8,129 wells on the first day of the year. Thus there was an increase in the number of producers during the six months' interval of 488 wells. Interesting in this connection was the increase in the average production of the wells which climbed from 22.67 bbls. on January 1 to 24.835 bbls. on July 1.

No New Large Fields

The fact that no new fields of large production were opened during the first six months and that new wells in proved areas were held to a minimum with more or less routine results, accounted for the comparatively small new production given the division. Initial production of wells completed in the six-month period totaled only 19,692 bbls. This was in contrast to the 103,850 bbls. of the first half of 1926, and the 52,395 bbls. of the last six months of 1926.

The year 1926 had its Urania in Louisiana and its Lisbon in Arkansas to swell the initial production totals but up to July 1 the Pleasant Hill Field of northern Sabine and southern DeSoto Parishes, Louisiana, was the best contribution for 1927 in the way of an entirely new oil source. And the initial production of all the wells completed there the first half of the year did not come in for a total of much more than 1,500 bbls. This dropped off rapidly and the nine producers in that district July 1 were making only 595 bbls. daily.

Flares of activity in scattered wildcat territory and spurts of interest in results of deeper drilling in old fields in the face of market and high water handicaps bolstered hopes of the industry here at times that new major oil fields or sources of supply were rising on the horizons but the majority of these set in disappointment.

Pleasant Hill Field

The Pleasant Hill Field, developed entirely this year, has not been given up by some operators as an oil district but it is conceded almost generally that it will be a pool paying off in small 42 gravity wells and that production will be spotted from the Washita at 3,100-200 feet.

The Carterville area of northern Bossier Parish, Louisiana, another flame of this year's kindling, virtually has been abandoned, not in drilling, but as a source of oil. No wildcat area is much more active than this at present but apparently this is destined to yield gas only.

Showings of oil in several wells drilled in that territory, and the fact that some of the gas produced was rich in gasoline, led to the belief that a major field existed somewhere there. With the exception of Woodley & Collins' No. 2 L. & A., Section 14-23-12, completed in March and which still is flowing some oil with a large amount of salt water, all wells have been gassers.

Carterville Gas Area

However, Carterville promises to fill an important place even as a gas field and a play is under way there, as well as in other gas territory, to create a gas reserve sought by several rapidly expanding gas distribution interests. The Carterville structure is extremely flat and salt water is an unfavorable accompaniment, yet it is recognized now as a fairly prolific source of gas and gas lines are being rushed to the field to move the production.

The Lawson-Urbana district of Union County, Arkansas, which also received its principal development the first half of this year was rewarded only with large wells which soon died or turned to salt water, and as an oil field this territory is becoming a forgotten number.

The new Rayville Field of Richland Parish still has not been condemned as likely oil territory but results of operations there the first half of the year were only gas wells. As previously mentioned by the writer, operations in this area were extremely hard hit by floods, Richland Parish being in the extreme east part of the State and the entire parish as well as the Rayville district was almost completely submerged.

Drilling in the Rayville district the first six months of the year opened a gas territory from 7 to 8 miles long and from 3 to 4 miles wide and as yet the limits have not been defined. Only the floods prevented this district from being the most active in the Arkansas and North Louisiana division.

Work in Mississippi

In northeastern Mississippi, the Amory district, nothing new had developed up to July 1 following the bringing in of a wildcat gas well last autumn by the Amory Petroleum Co. This district, while not generally classified with Arkansas and North Louisiana, is scouted chiefly out of Shreveport oil offices. Some drilling is going on there.

Further perforating of the southern tier of parishes of the North Louisiana Field along what is known as the Angelina-Caldwell flexure with numerous shallow holes continued, but met with discouraging results in almost as many dry holes or salt water wells. A few small gas strikes were encountered but that has been about the extent of that play.

However, although generally unfavorable development conditions have put the soft pedal on any extensive branching out in drilling, the search for new oil in this division, as limited as it was, may not have been in vain. Conservative but systematic efforts to push the bit down to deeper horizons have been rewarded since the first of July by the bringing in of a gusher in the Pine Island Field of Caddo Parish from the Trinity horizon.

Big Production in Trinity

This well, the Haynes Brothers' No. 1 Murray, Section 14-21-15, was brought in so soon after the close of the first half of the year that it deserves mention in a summary of field developments of the first six months. This well for the first half hour flowed at the rate of about 12,000 bbls. daily, producing from the lower Glen Rose formation at 3,685 feet. The first 24 hours of steady flow it ran 6,500 bbls. of 42.3 gravity oil to storage through 1⅛-inch choke.

Thus efforts to uncover deeper production in the Pine Island Field the first six months of 1927 produced a well which almost of necessity will stimulate an intensive development of the Pine Island Trinity horizon, if not the true Trinity sand itself, the latter half of the year. As this is written locations for 12 new deep wells have been made in that field, others are to be made, two wells are ready to drill plugs and two formerly completed deep wells are being deepened further into the formation.

Four Trinity horizon wells were completed in the Pine Island Field the first half of the year not including the Haynes gusher. However, it originally had been completed in June as a 20,000,000-foot gasser. Three of these deep wells made only gas and one was a dry hole.

Additional exploration work in the

(Continued on Page 252)

NORTH LOUISIANA

Daily Average and Monthly Production in First Six Months of 1927

		January	February	March	April	May	June	Total
Bellevue:	Daily average	1,606	1,493	1,471	1,593	1,400	1,362	
	Month	49,786	41,804	45,601	47,790	43,400	40,860	269,241
Caddo light	Daily average	8,470	10,126	10,104	9,840	9,525	9,781	
	Month	262,570	283,528	313,224	295,200	295,275	293,430	1,743,227
Caddo heavy	Daily average	3,932	4,511	4,477	4,555	4,625	4,656	
	Month	121,892	126,308	138,787	136,650	143,375	139,680	806,692
Cotton Valley:	Daily average	6,555	6,114	6,103	5,992	5,700	5,620	
	Month	203,205	171,192	189,193	179,760	176,700	168,600	1,088,650
DeSoto and Red River:	Daily average	4,042	3,973	4,140	4,297	3,560	3,829	
	Month	125,302	111,244	128,340	128,910	110,360	114,870	719,026
Elm Grove:	Daily average	625	726	692	615	615	691	
	Month	19,375	20,328	21,452	18,450	19,065	20,730	119,400
Haynesville	Daily average	8,365	8,144	7,988	7,831	7,750	7,752	
	Month	259,315	228,032	247,628	234,930	240,250	232,560	1,442,715
Homer:	Daily average	5,292	5,342	5,305	5,206	5,190	5,134	
	Month	164,052	149,576	164,455	156,180	160,890	154,020	949,173
Urania:	Daily average	12,375	12,214	11,001	10,446	8,600	8,460	
	Month	383,625	341,992	341,031	313,380	266,600	253,800	1,900,398
Pleasant Hill:	Daily average	.....	.....	.....	.....	445	549	
	Month	.....	.....	.....	.....	13,795	16,470	30,265
Total:	Daily average	51,262	52,643	51,281	50,375	47,410	47,834	50,104
First half 1927		1,589,122	1,474,004	1,589,711	1,511,250	1,469,710	1,435,020	9,068,817
First half 1926		1,343,788	1,288,000	1,511,219	1,556,580	1,830,705	1,809,180	9,389,472
First half 1925		1,519,434	1,346,105	1,528,037	1,528,037	1,600,306	1,520,325	9,080,338
First half 1924		1,398,370	1,314,242	1,311,142	1,311,142	1,401,835	1,617,610	8,541,773
First half 1923		2,272,641	1,911,560	2,136,590	2,136,590	2,125,298	1,986,283	12,456,691

ARKANSAS

Daily Average and Monthly Production in First Six Months of 1927

		January	February	March	April	May	June	Total
El Dorado:	Daily average	6,039	6,054	5,928	6,102	6,210	6,180	
	Month	187,209	169,512	183,768	183,060	192,510	185,400	1,101,459
Lisbon:	Daily average	5,505	5,031	4,714	4,382	3,960	3,825	
	Month	170,655	140,868	146,134	131,460	122,760	114,750	826,627
Nevada:	Daily average	1,834	1,867	1,770	1,422	1,469	1,417	
	Month	56,854	50,569	54,870	42,660	45,539	42,510	293,029
Smackover light:	Daily average	12,385	12,082	11,608	11,400	11,115	11,060	
	Month	383,935	338,296	359,848	342,000	344,565	331,800	2,100,444
Smackover heavy:	Daily average	103,999	101,044	98,745	87,785	88,490	88,266	
	Month	3,223,969	2,829,232	3,061,095	2,633,550	2,743,190	2,647,980	17,139,016
Stephens:	Daily average	1,429	1,414	1,344	1,392	1,345	1,316	
	Month	44,299	39,592	41,664	41,760	41,695	39,480	248,490
Bradley:	Daily average	308	220	211	125	110	128	
	Month	9,548	6,160	6,541	3,760	3,410	3,840	33,249
Total:	Daily average	131,499	127,652	124,320	112,608	112,699	112,192	120,123
First half 1927		4,076,469	3,574,256	3,853,920	3,378,240	3,493,669	3,365,760	21,742,314
First half 1926		5,489,604	4,756,836	5,115,837	5,127,510	5,482,939	5,064,760	31,037,486
First half 1925		3,252,303	2,886,296	3,564,473	7,560,230	11,813,996	9,200,372	38,277,670
First half 1924		3,686,680	2,302,750	3,882,695	4,068,225	4,659,117	4,756,443	24,335,910
First half 1923		3,222,605	2,740,024	2,978,862	2,873,820	3,219,319	3,463,227	18,497,867

Michigan and Indiana Were Features

Central West Area Saved From Big Drop by Activities in Saginaw Field and the Hoosier State. New Gas Areas

By George A. Whitney
Staff Correspondent, Central West Fields

Only a slight difference is noticeable in the development work in the Central West Field comprising, the Lima Field of Northwestern Ohio, Central Ohio Field, Indiana, Illinois and Michigan fields, for the first half of 1927, although the closing month of the period, June, showed a slump in all areas, owing to the low price of crude, brought about by the overproduction in the fields west of the Mississippi River. This condition will right itself in time and old-time operators have passed through the same predicament time after time. Back in the early nineties when the Trenton Rock fields of Ohio and Indiana were pouring out the crude at the rate of 60,000 bbls., or more a day, it was a heavy overproduction and oil went as low as 15 cents per barrel. In the older fields of the East work is slackened to a large extent and will remain so, unless some new big producing area in advance of present production is opened up, such as in Ohio County, Kentucky, Clay and Jackson Counties, Tennessee, and the Saginaw, Michigan Field. These three areas are attracting much attention and are being developed. The operations in the Saginaw Field are expensive, owing to the depths drilled, while in the Kentucky end in Ohio County and in Tennessee, the product is found at depths varying from 200 to 750 feet, although these shallow Kentucky and Tennessee wells cost approximately as much as a well in the Trenton Rock fields of Ohio and Indiana, which are from 950 to 1,400 feet. The heavy cost in the south is in transporting the supplies to the locations in the interior, while in the Trenton fields of Ohio and Indiana these expenses mean but little and again drilling per foot is cheaper in the Trenton Rock areas, but the wells are usually only small producers.

During the first six months of 1927 the total completions in the Central West Field, including the five divisions: Lima, Central Ohio, Indiana, Illinois and Michigan, totalled 637 wells, of which 368 were oil wells, with an initial production of 8,764 bbls., 149 dry holes and 120 gas wells. During this period there were 168 old wells pulled out and abandoned in the Lima, Indiana and Illinois divisions. Compared with the work during the first half of 1926, it shows 4 less completions, 1 less producer, 582 bbls. less production, 6 more dry holes, 9 fewer gas wells and 43 fewer wells abandoned. The 368 new oil wells in the fields mentioned for the six months' period had an average initial production close to 24 bbls. to the well.

Leasing activity continues in all fields and just as soon as the prices for crude return to normal, much work will be started in attempts to extend the older fields, or hunt the country over with the hopes of opening up new producing spots.

LIMA FIELDS

For a number of years there has been more or less talk of drilling deep tests over the Lima Field, to test out all possibilities of oil below the well known Trenton Rock formation. This has been done in one instance during the period in review and this deep hole was finished in June. The location of this deep well drilled by the Ohio Oil Co., was in the northeast corner of the William H. Burns farm, on the oil map as the A. Black farm, Section 9, Woodville Township, Sandusky County and between Woodville and Genoa, along the territory where the Niagara Lime formation comes to the surface. In this well the top of the Trenton was found at 1,177 feet and there was close to 800 feet of that sand, but the hole was drilled 1,645 feet below the top of the Trenton to a total depth 2,822 feet, which no doubt means to a point that lies between the Upper and Lower Cambrian formations. The last 100 feet drilled was through 30 per cent granite, and was abandoned as there were no chance for production at a lower depth and drilling in the granite was slow and tedious work. The Ohio Oil Co., expects to make further deep tests within the area of the Trenton Rock production. One of the first completions in the Lima Field for the year 1927, was that of the Oko Oil & Gas Co., in a second venture on the Mary Heilman farm, in the Colt Pool, in Section 29, Perrysburg Township, Wood County, with an initial production of 15 bbls. at 49 feet in the sand at a total depth of 1,293 feet, followed closely by the Ohio Oil Co.'s No. 8 on the L. Rhoad farm, Section 32, Bloom Township, same county, where the Trenton was topped at 1,085 feet and drilled 250 feet in the sand to a total depth of 1,335 feet, with an initial production of 35 bbls.

The Saginaw, Mich., Field completed more wells for the first six months of 1927 than either Indiana, Illinois or the Lima Field and only 41 less than the Central Ohio Field.

The Lima Field for the period completed 126 wells, of which 104 were oil wells with an initial production of 1,132 bbls., 15 dry holes and 7 gas wells, while 105 wells were abandoned. This is a decrease when compared with the first half of 1926, of 91 completions, 90 oil wells, 1,976 bbls. initial production, 1 less dry hole, 2 less gas wells and 55 less abandoned wells.

Chronological Record

The first extension to the Lima Field for 1927 came in January, when Abbott Brothers drilled a gas well in the extreme northeastern part of Auglaize County, on the Fred Davidson farm, Section 12, Wayne Township, which came in a gas well at a depth of 1,492 feet. Penetrating the Trenton to a greater depth was the work in February, with little results. Mann Stockwell drilled his No. 6 on the Frank Stratton farm, Section 10, Liberty Township, Wood County, to a total depth of 1,512 feet, or 300 feet in the sand, the well doing but 2 bbls. In Section 24, same township, Mercer & Ray's No. 25 on the John Mercer farm, went 204 feet in the Trenton at a total depth of 1,400 feet and also got a 2-bbl. pumper. In Henry Township, same county, near North Baltimore Mays & Bushey's test on the Mays-Bushey farm, Section 35, went to a total depth of 1,425 feet, or 282 feet in the sand, getting a 5-bbl. pumper. In March, the Ohio Oil Co. penetrated the Trenton Rock to a depth of 460 feet, at a total depth of 1,621 feet at No. 47 on the E. Shanaberger farm, Section 7, Bloom Township, Wood County, close to Cygnet getting a 10-bbl. pumper, while in Liberty Township, same county, Walden & Evans only got a 3-bbl. pumper at 143 feet in the sand. One important test was brought in during March when Murphy & Son drilled in a wildcat on the Dave Hunker farm, near the town of Cromer northwest of Tiffin, in Section 21, Liberty Township, Seneca County, that resulted in a flowing well that produced 90 bbls. in 24 hours. This well was drilled 150 feet in the sand to a total depth of 1,519 feet and caused quite an excitement in leasing.

In April, the Denhoff Brothers attempted to find a deep sand pay in a well on the L. Wolfe farm, Section 1, Marion Township, Hancock County, and went 251 feet in the Trenton to a total depth of 1,521 feet, where salt water was encountered and the venture abandoned. The Ohio Oil Co.'s wildcat on the Louis Paur farm, Section 2, Laramie Township, Shelby County, getting a 12-bbl. initial producer at 180 feet in the sand at a total depth of 1,419 feet.

In May, Clark A. Browning drilled No. 24 on the Browning farm, better known as the L. D. Hatfield farm, Section 16, Bloom Township, to 168 feet in the sand at a total depth of 1,198 feet, getting a 27-bbl. initial producer.

In June, Hulse & Kundtz drilled their second well on the E. A. Judson farm, Section 3, Liberty Township, Wood County, 340 feet in the sand to a total depth of 1,573 feet, getting a dry hole. Murphy & Co. drilled a well on the John Harrison farm, Section 21, Liberty Township, Seneca County, near Comer, north of Tiffin where they brought in a 90-bbl. producer in March, but got a duster at 198 feet in the Trenton, at a total depth of 1,576 feet. W. F. Kurtz is making a strong effort to open up an oil producing area in the Forest Gas Field in Jackson Township, Hardin County, and completed a 200,000-foot gas well on the Baker farm, Section 18, and a dry hole on the Christian Kraft farm, Section 19. The South Bend Oil Products Co. made a 2,000,000-foot gas strike at a second well on the Cooper property, Section 12, Ridge Township, Wyandot County.

CENTRAL OHIO

Central Ohio failed to show anything sensational in either oil or gas developments for the first six months of 1927. During this period there were 179 wells completed, of which 40 were oil wells with a combined initial production of 1,838 bbls., 48 dry holes and 91 gas wells. This when compared with the first half of 1926 shows a decrease of 19 in completed wells, 5 more oil wells, 182 bbls., less production, 1 less dry hole and 23 less gas wells. The slump in work in the gas field was the continuous bad weather that prevailed with heavy rains and swollen streams, hampering the moving of material and drilling operations as well. Holmes County led in development, with Cuyahoga County, second and Medina County, third, and the only three counties that showed more than 15 completions for the entire period. Out of 48 completions in the Holmes County Field, 26 were oil wells with an initial production of 1,627 bbls., 6 dry holes and 16 gas wells. Cuyahoga County had 38 completions, 10 dry and 28 being gas wells, located near Cleveland. Medina County, had 27 completed wells, 11 of which were oil wells of the stripper kind for 31 bbls., 8 dry holes and the same number of gas wells. The only pipe line work reported in the connecting up of wells with a gathering line from the main trunk lines of the various gas companies.

In January, Hendricks and others drilled a test on the C. D. Swartz land, in Carthage Township, Athens County, getting a gas well with an open flow of approximately 2,500,000 feet. The Logan Gas Co.'s No. 1 Winslow farm, in Dover Township, Cuyahoga County, reported at 2,500,000 feet and No. 1 E. A. Jent lease, at 2,000,000 feet.

February shows that the Ohio Fuel Gas Co.'s No. 1 on the A. J. Beatty 127 acres, in Butler Township, Knox County, showed an initial of 60 bbls. The record of the well is pay sand at from 3,076 to 3,101 feet, when a break was found from 3,101 to 3,114 feet when another pay sand was found from 3,114 to 3,127 feet. In Columbia Township, Lorain County, the Ohio Fuel Gas Co.'s test on the J. and S. Pringle farm, estimated open flow of gas at 1,750,000 feet. In Holmes County, Kilbuck Township, the Kemrow Co.'s test on the William Sandles lease, gauged 4,000,000 feet open flow. East Ohio Gas Co.'s test on the Nyhart farm, Monroe Township, Coshocton County, estimated at 5,000,000 feet. In Dover Township, Cuyahoga County the Preston Oil Co.'s No. 1 Dunford lease, 3,500,000 feet. Dempsey Brothers' No. 1 P. F. Decker lease, same township, 2,000,000 feet; Arthur & Simpson's No. 1 F. B. Harrison lease, and No. 1 on the Kinlow lease, same field, 2,500,000 and 3,000,000 feet of gas.

Opened New Gas Area

In March, Ringle and others opened up a new gas area by sinking a test in the northeast corner of the Ray Shaw 15 acres, Section 11, Clear Creek Township, Ashland County, with an open flow of 2,000,000 feet. Empire Gas & Fuel Co.'s test on the W. A. Shaw farm, Liverpool Township, Medina County, gas well good for 1,000,000 feet, while No. 1 on the C. L. White farm, Medina Township, same county, was equally as good at a depth of 3,560 feet. In Hardy Township, Holmes County, a 100-bbl. initial oil well was drilled by the East Ohio Gas Co., on the Etta J. Nowells lease. Burton & Morgan struck a well good for 85 bbls. on the George Schuler lease, same township. In Kilbuck Township, Holmes County, East Ohio Gas Co.'s test in the northeast corner of the F. H. and Laura E. Garver, showed 4,000 feet of gas from the Clinton sand. In Richland Township, same county, a wildcat drilled by the Reno Oil Co., on the Druzella Kyser 42 acres, Section 25, had an initial of 15 bbls., while a second well in the northeast corner of the same farm drilled in a dry hole. Four new wells were drilled in Dover Township, Cuyahoga County. Logan Gas Co., No. 2 Elliott lease, 3,000,000 feet gas; Arthur & Simpson, No. 1 Guage lease, 2,250,000 feet; Dempsey & Daugherty, No. 1 Kinkles lease, 1,750,000 feet, and Hulse & Kundtz, No. 1 F. Clausen lease, 1,750,000 feet. A wildcat drilled by the East Ohio Gas Co., on the J. B. Kirby lease, Section 25, Richfield Township, Summitt County, measured 1,250,000 feet, opening what looks like a new gas producing area.

During April in Hardy Township, Holmes County, the Kemrow Co. drilled a 125-bbl. oil well in a second venture on the Louis Coon lease, and in Kilbuck Township, same county, the same company struck a 2,000,000-foot gas well at a second test on the A. Fites lease.

During May, M. C. and G. K. Rogers drilled a test on the Paul Rerto lease, in Lafayette Township, Medina County, resulting in an open flow gas well with a volume of 3,500,000 feet. In Hardy Township, Holmes County, Warren Palmer and others struck a 160-bbl. oil well on the George Schuler lease, same county. A wildcat drilled by I. E. O'Hail on the Katherine Kaylor lease, in Knox Township, same county, measured a volume of 1,750,000 feet of gas. In the Cleveland Field, Dover Township, Cuyahoga County, Arthur & Simpson's No. 2 M. Harrison lease, 2,750,000 feet and No. 2 C. L. Harrison lease, 4,000,000 feet, and in Olmstead Township, same county, Hulse & Kundtz uncovered a test on the H. Harmon lease, for a volume of 1,250,000 feet.

In June, the Empire Gas & Fuel Co. brought in a 2,000,000-foot gas well in No. 3 on the Charles Pechhas lease, Lafayette Township, Medina County. The Kemrow Co.'s test on the Mel Purdy lease, in Richland Township, Holmes County, came in at 2,500,000 feet, while

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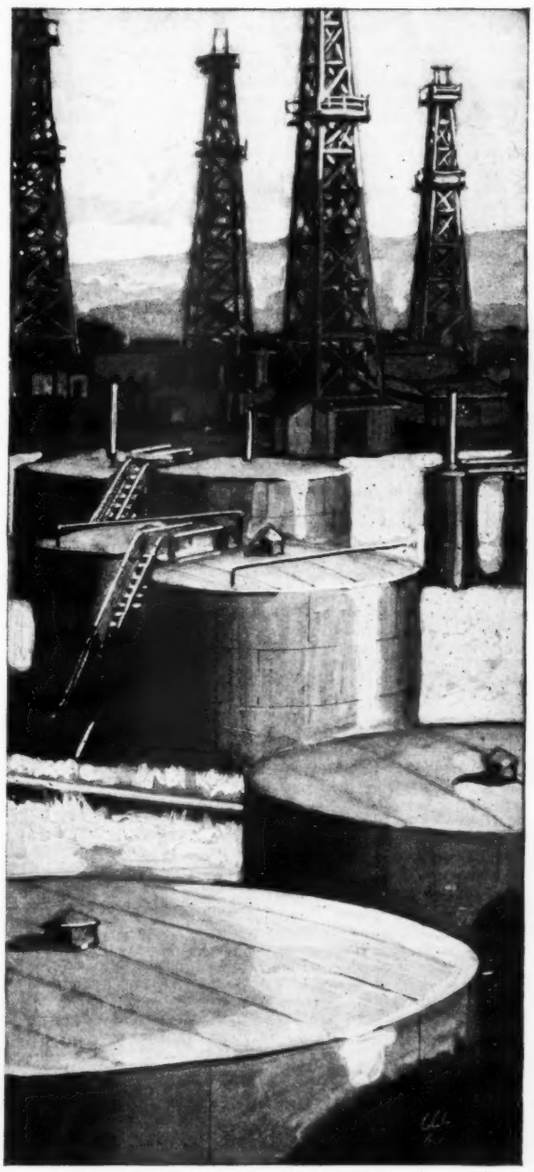

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(82)

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in Clear Creek Township, Ashland County, the Logan Gas Co. got a well good for 2,529,000 feet of gas at a test on the Charles Brown lease.

INDIANA FIELDS

Indiana developments are growing at an interesting rate as many tests are under way and others completed in a large number of counties over the state and more will be accomplished before the close of the current year. A heavy increase is shown over the same period in the previous year. During the first six months of 1927, Indiana is credited with 127 completions, of which 57 were oil wells, with an initial production of 1,704 bbls., 55 dry holes, 15 gas wells and 50 wells abandoned. Compared with the first half of 1926, this shows an increase in completed wells of 60, with 21 more oil wells, with 874 bbls. more initial production, 28 more dry holes, 11 more gas wells and 25 more old wells abandoned.

Pike County, in the southwestern portion of the State led in the number of completions, while Gibson County adjoining shows the largest initial production brought about by the finding of one of the best wells drilled in the state during the period, being good for 225 bbls. Natural production in 24 hours. There were 23 counties in the state that reported completions for the past six months, there being some new gas production found in at least nine counties and all in wildcat areas, and which should bring about a more active development during the last half of the current year.

The oil thrills started early in the Indiana Field. In January the Siosi Oil Corp. drilled a wildcat on the John Hunt lease, in the NE NE, Section 6, Fairbanks Township, Sullivan County, south of Terre Haute, and near the division line of Sullivan and Vigo Counties. This well found pay at a depth of 2,175 feet and drilled one foot deeper where water was encountered. The oil proved to 47.7 gravity and flowed 80 bbls. in tankage of wood, and reported to have evaporated over night owing to high gravity, similar to the oil found near Butler, Ohio some dozen years ago. Steel storage was put up and when connected showed 80 bbls. a day. This well was credited to A. R. Morris and others, which developed into the Siosi Oil Corp. later on. This well caused a lot of excitement and leasing was active in the northern portion of Sullivan County and southern part of Vigo County.

In February, N. E. Masters drilled a dry hole in a wildcat well on the J. M. Miller lease, west of Kokomo, in Howard County.

During March, Ridenour and others drilled a test on the A. C. Brown farm, Section 33, Penn Township, Jay County, in the Trenton Rock area, getting a 35-bbl. pumper. In Center Township, Gibson County, Mann & Hubers, second test on the Margaret Hollingsworth farm, showed a natural production the first day of 50 bbls. from a depth of 1,407 feet. In Veale Township, Daviess County, Hartman Sargent and others' well No. 1 on the F. B. Colbert farm, quarter of a mile northeast of the Peak farm well, in Section 21, showed a production of 120 bbls., first 24 hours. Phipps & Blosser drilled a wildcat well 10 miles east of Washington, in Barr Township, same county, reported at 15 bbls. initial. Sunlight Coal Co. drilled a dry hole in a wildcat on the Charles Watt farm, Section 1, Greer Township, Warrick County.

During April, Gibson County, came to the front again when the Euclid Oil Co.'s No. 4 on the Veirling heirs lease, in Section 28, Washington Township, put out 150 bbls. the first day from a depth of 1,637 feet. Bell Brothers wildcat on the George Annis lease, Center Township, same county and southeast of Francisco, was dry at 1,543 feet. A. B. Bement's second test on the Eldon Catt farm, Lot 13, Logan Township, Pike County, produced 20 bbls. natural from a depth of 1,343½ feet, but water broke in and the hole was abandoned. The Ohio Oil Co. drilled a test for a deep hole on the James A. Stout farm, Section 26, Prairie Creek Township, Vigo County, and struck blue lick water at a depth of 2,344 feet and abandoned.

In May, the George Slee Oil & Gas Co. is credited with an initial production of 100 bbls. at a test on the W. Greenfield lease, in Jefferson Township, Adams County. In Center Township, Gibson County, Joe S. Young, Jr. and others landed a 150-bbl. natural producer in a test on the D. Jenkins lease, at 1,409 feet. Cambridge Gas Co.'s test on the Lee Hall lease, near Mays, in Center Township, Rush County, is a gas producer. Granville Lee struck a gas well on his farm, in Ohio Township, Bartholomew County.

June, the closing month of the period saw a number of wildcat ventures brought in. In Washington Township, Blackford County, the Roberd-Herman Oil Clubs, test on the Jacob Rinker farm, Section 7, is credited with 30 bbls. at 1,027 feet, which is the Trenton Rock. In Center Township, Gibson County, Mann & Huber's test on the David Hutchison farm, Section 13, produced 225 bbls. natural at 1,418 feet, being Indiana's biggest producer for the six months period. Henry Skidmore brought in a 40-bbl. natural producer in a test on the Jacob Williams farm, Section 2, Madison Township, Pike County. Siosi Oil Corp. brought in a second test on the J. R. Thomas farm, in Fairbanks Township, Sullivan County, for 60 bbls. at 2,105 feet.

Among the late wildcats, gas wells were found in Madison, Kosciusko, Hancock, Harrison and Lawrence Counties, while test in Spencer, Warrick and Perry Counties were listed as dry holes.

ILLINOIS FIELDS

Illinois had a poor development campaign during the first six months of 1927. Only 67 completions were reported of which 42 were oil wells, with an initial of 1,230 bbls., 20 dry holes, 5 gas wells and 13 wells abandoned. When compared with the figures for the first half of 1926 this shows 81 fewer completions, 72 fewer oil wells, 1,912 bbls. less initial production, 32 fewer dry holes, 3 more gas wells and 13 less wells abandoned. Wabash County led in completed work and has been the backbone of the Illinois Field for the past three years, but was neglected during the period of six months in review.

Dry Hole at 5,185 Feet

The most important venture of the half year anywhere in Illinois, was the deep well drilled by the Ohio Oil Co. in No. 23 on the J. R. Middagh farm, Section 32, Bridgeport Township, Lawrence County. This well was completed during March to a total depth of 5,185 feet where a heavy dose of salt water was encountered, and is supposed to be the deepest hole yet drilled in the state.

In January the Ohio Oil Co.'s test on the McCutcheon farm, Lamoine Township, McDonough County, in the northwestern portion of the state, was reported at 15 bbls. initial.

In February, Joe S. Young and others No. 1 on the J. C. Sparks farm, Section 36, Wabash Township, Wabash County, reported at 150 bbls. natural at 1,376 feet.

During April, the Ohio Oil Co.'s No. 18 on the W. E. Robbins No. 2 farm, Dennison Township, Lawrence County, showed 100 bbls. initial, and in the center of the old producing area. Miller & Lengelsen's test on the A. B. Keen farm, in Friendsville Township, Wabash County, showed 75 bbls. at 1,624 feet. Timberlake & Higgins' test on the Willerton farm, Section 18, Jacksonville Township, Morgan County, reported good for 2,000,000 feet gas at 435 feet deep.

In May, Rhodes & Keith's No. 1 on the McNurlin farm, Martinsville Township, Clark County, did 65 bbls. from the Niagara Lime formation at 1,600 feet.

In June just at the outskirts of Bridgeport, the Big Four Oil & Gas Co.'s test on the Umfleet farm, in Bridgeport Township, Lawrence County, started at 30 bbls. from the Kirkwood sand at 1,624 feet. Silurian Oil Co.'s No. 18 on the William Ross farm, Petty Township, Lawrence County, produced an initial of 75 bbls. from the McCloskey sand at 1,858 feet.

Michigan

The new Saginaw Field of Michigan made wonderful strides during the first six months of 1927, regardless of the expensive development being made in the drilling for pay in the three sands. The first pay sand is the Berea at an average depth of 1,815 feet; the Saginaw sand is around 2,300 feet and the Dundee sand at close to 3,000 feet. During the period 138 wells were completed, of which 125 were oil wells, with an initial production of 2,860 bbls., 11 were dry holes and 2 were gas wells. Compared with the first half of 1926, this shows 127 more completions, 2,613 bbls. more initial production, 10 more dry holes and 2 more gas wells. The average per well for the 125 oil wells for the 1927 period was slightly below 23 bbls.

The production of the Saginaw Field has been handled by the Sun Oil Pipe Line and the National Refining Co., but a new purchaser entered the field, the Standard Oil of Indiana, which is now laying gathering lines and constructing storage north of Saginaw, near Zilwaukee, where a refining plant is also to be put up. Just as soon as the storage and line is completed, the Standard will bid for its portion of the production of the field, which is reported producing close to 1,500 bbls. per day.

Deeper sand drilling has been in vogue in the field during the past few months, as many wells are already down and others going down to the Saginaw and Dundee sands, but as far as tested out in the field, the Berea sand which is the first producing sand, appears to be more dependable, and secured at a much lower cost than either of the deeper sands. The wells from the Berea sand average pretty well from 15 to 35 bbls. initial each and the settled production means around 7 bbls. per well. The largest producer in the field was found in the Saginaw sand during March, when the Sun Oil Co. deepened its No. 1 on the Ferdi and Stelzreide farm, Section 11, Saginaw Township, north of Saginaw and to the extreme north part of the field. This well topped the Saginaw formation at 2,312 feet and drilled 37 feet in the sand. The well produced at the rate of 475 bbls. the first 24 hours, before being shut in and when again started up and put 375 bbls. in storage the second 24 hours. The well gradually fell off until it was reported doing around 40 bbls. at the close of June. This has been a remarkable well for a steady pumping of about three months and still doing oil at the rate it is. Wells have been drilled around the well on the Stelzreide farm, but none of them were successful in finding production of worth in the Saginaw sand, nor the Dundee, and very little in the Berea sand. Deep wells have also been drilled in other parts of the field, and the failure to find commercial producers it has been determined that the sand is a spotted one while the Berea formation is more dependable. It will require further tests in both the Saginaw and Dundee sands to satisfy the average citizen up in that country. The Saginaw Prospecting Co., the present company and discoverer of the Saginaw Field, drilled a wildcat well a short way out of Midland, the county seat of Midland County and about 20 miles northwest of the Saginaw Field. This test was drilled through the Berea and Saginaw sands then down to the Dundee sand which was topped at 3,587 feet and drilled 152 feet in the sand to a total depth of 3,739 feet, where a heavy dose of salt water was encountered and was then given up as a failure.

The Sun Oil Co. drilled a wildcat near the town of Ashley, in Gratiot County, southwest of Saginaw, getting a 1,700,000-foot gas volume at a shallow depth of 490 feet. An interesting wildcat is reported drilling near Grayling, in Craw-

(Continued on Page 262)

SUNNYDALE POOL, OHIO COUNTY, KENTUCKY, CENTER OF ATTRACTION

By Whit

Staff Correspondent, Kentucky-Tennessee

The territory comprising Kentucky, Tennessee, Mississippi, Alabama and Florida for the first six months of 1927 failed to maintain the usual activities, resulting in a heavy slump in completed wells, while initial production shows much larger, brought about by the opening of the Ambrose Pool in Ohio County, Kentucky, the richest producing area in Kentucky during the period in review.

This vast territory for the first half of the current year is credited with a total of 552 completions, of which 421 were oil wells, with an initial production of 14,658 bbls., 113 dry holes and 18 gas wells. When compared with the result of the drill for the first half of 1926, this shows a falling off of 105 in completed wells, 53 in oil wells, 5,658 bbls. more in initial production, 49 fewer dry holes and a drop of 3 in gas wells. The heavy decline in completed work is not due alone to the prevailing price of crude, but also to weather conditions which have been such that work could hardly be maintained in some portions, high waters and floods along the streams making access to the leases almost impossible. This was more noticeable in the eastern and central portion of Kentucky and Tennessee, although the extreme western portion of the two states was in line with the Mississippi River floods, but too far west to interfere with the producing field of western Kentucky.

At the close of June, 1927, Somerset crude, in the eastern part of Kentucky is quoted at $1.50 per barrel through the Cumberland Pipe Line Co. lines, there being but one grade in that portion of the state, outside of the product of the Ragland Field, which is quoted at 95 cents per barrel.

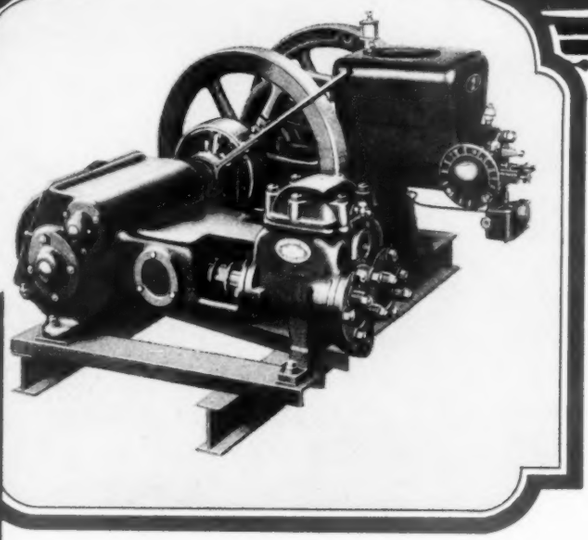
In the western division of Kentucky in Barren, Cumberland, Monroe and Clinton Counties, and in Clay, Jackson and Pickett Counties, Tennessee, the Paragon Development Co. quotes $1.50 per barrel, and in Barren County, Kentucky, the Stoll Oil Refining Co. quotes the same price for crude handled by its gathering system. In Warren, Allen, Ohio, Daviess, Hancock, Simpson and other counties in the western division, the Ohio Oil Co. quotes a price of $1.33 through the lines of the Illinois Pipe Line Co., purchased about a year ago from the Indian Pipe Line Corp. Western Kentucky crude prices follow in the wake of the Mid-Continent prices, although the Kentucky crudes are not graded by gravity in price as was the case back in 1926, the product bringing the same price in one spot as another, while in eastern Kentucky, the former Somerset light and Somerset medium are now quoted as Somerset oil.

Pipe Line Extensions

The western division of Kentucky shows no trunk line extensions, the only construction work being on gathering lines as new wells are being brought in. A line approximately a dozen miles long was extended to the Ambrose Pool in Ohio County and a 5-mile gathering line laid to the Roby Pool, in Daviess County. All producing wells worth while have been connected to the Illinois Pipe Line in what is known as the western Kentucky Field. In Allen County, this line has connected up the Grace Oil Co.'s lease on the General Wood 2,700-acre farm, upon which 8 wells have been completed and other leases in the vicinity have been taken care of.

In the eastern division, the Cumberland

(Continued on Page 262)



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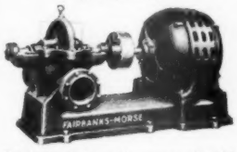
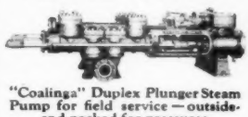


Typical of the wide range of F-M "Unit-Built" motor-pump combinations. In this unit both pump and motor have ball bearings



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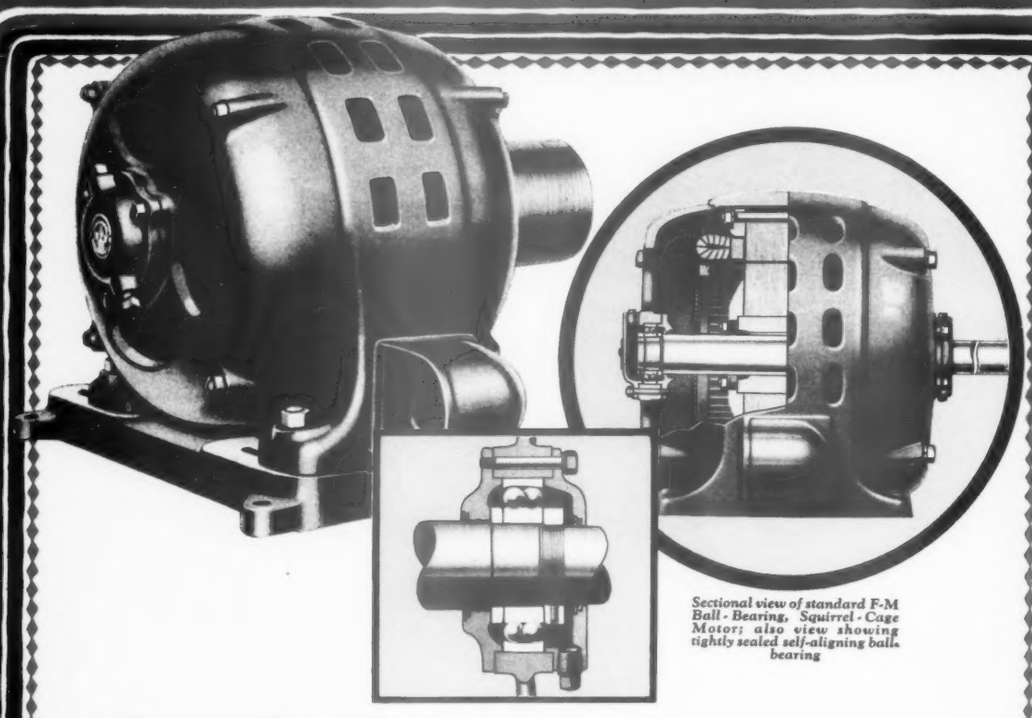

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Rocky Mountain Operators Slow Up

Low Price of Oil Discouraged Wildcatting and Little of Interest Occurred in the Five States

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

At the close of 1926, the overproduction of oil in the Mid-Continent and California fields had caused a general curtailment of wildcatting in the Rocky Mountain region and this feature continues to hold back the oil operators from experimenting with the drill in untested areas. Some, more bold than the others, are putting down wells here and there, but on the whole the amount of wildcat drilling is a small percentage of what it was a few years ago.

In January, 1927, the oil men were being further hampered by the flood of crude from other regions and very little wildcatting was being done except in such areas as were only partially affected by the production of other districts. The Sunburst Field, located close to the Canadian boundary, is able to deliver its crude at a fair market price to refining points in Canada so that even the low priced crudes of the Mid-Continent fields cannot compete successfully in this trade. Mule Creek Field in Wyoming is also so situated as regards transportation facilities that the crude produced can be delivered relatively cheaper to Canadian refineries than it can be sent to refining points in Wyoming.

Since The Texas Company established a refinery at Craig, Colo., the Moffat and Tow Creek fields are able to produce their oil and deliver it to this refinery cheaper than the Mid-Continent crude can be shipped in, although the local fields have a much higher lifting cost and overhead than the Mid-Continent fields. The difference in freight charges more than offsets the difference in the crude prices.

Florence, Colo., and Casper, Wyo., are about the only refining points seriously menaced by Mid-Continent distress crude for the freight charges to other points render them immune. According to freight rates, it would be possible to ship in crude to either point from the Mid-Continent fields in competition with the production of crude from the local fields.

WYOMING

The first month of the year, 1927, brought a keen disappointment to the oil men in the failure of the Pilot Butte Field in Fremont County to develop a light oil production in the deep sands. This field has about a 50-bbl. production along a fault plane and the wells find the oil around 900 feet. The Cretaceous sands lie about 3,000 feet under the surface and one well drilled to this depth found oil therein. Further tests however failed to bring in any producers and the deep sand there seems to be void of oil.

The surface pipe lines in Salt Creek Field failed due to the cold weather and this caused a shortage of oil for the runs from the field to the refineries. The Lakota sand wells that the Midwest Refining Co. had been drilling during 1926 were opened and the production from about 12 of these wells was sufficient to keep the runs up to normal in spite of the fact that the second Wall Creek sand wells were unable to make their production.

Another setback for Wyoming was the dry hole drilled by the Carter Oil Co. on the Horse Creek structure north of Cheyenne, this well was expected to bring in a new oil field in the southeastern part of the state, but failed to find anything commercial. The Lakota sand at Salt Creek yielded a new well in February that made 4,000 bbls. initial production and the Midwest Refining Co. started its deep producer on the Dutton Creek Dome in Albany County to producing into a tank. No pipe line had been laid and the well was making around 90 bbls. daily at the start.

Prairie Changes Headquarters

The Prairie Oil & Gas Co. announced its intention to move the offices of the company from Cheyenne to Parco, the latter point being the base of all refining and field operations for the Rocky Mountain region for that company and the Producers & Refiners Corp., a subsidiary. Later the company built 17 houses at Parco for use of employes from the Cheyenne office and the move was expected to be made some time in the fall of 1927.

A New Gas Supply

The gradual dwindling of the gas supply for the Greybull refinery of the Standard Oil Co. of Indiana and a like shortage of natural gas for the towns and cities of the central part of the Big Horn Basin, derived from the Hidden Dome Field in Washakie County, compelled the Wyoming Gas Co., supplying the cities and towns, and the Midwest Refining Co. supplying the Greybull refinery, to make plans for another source of supply. The Buffalo Basin Field lying west of the Grass Creek Field, in Hot Springs and Park Counties had several gas wells shut in and a large potential production of gas for the field when more wells were drilled.

The Midwest Refining Co., and the Ohio Oil Co. controlled this field, both companies having drilled wells there when the structure was first tested. The Midwest Refining Co. contracted with the Ohio Oil Co. for all the gas production of the Ohio Oil Co.'s acreage under a unit plan and started the laying of a pipe line from the Buffalo Basin Field to a connection with the 12-inch line from the Hidden Dome Field near Nowood, making connection with what is known as the Greybull-Nowood loop. This new line is 70 miles long and laid with 12 and 14-inch plain pipe, Dresser couplings. It has two laterals, each about 6 miles long, one to the Grass Creek Field and the other to the town of Worland on the Big Horn River. The work of laying this line started in February and was completed about the first of July.

Open Hamilton Dome

After a shut down of over a year, the Hamilton Dome Field in Hot Springs County was ordered placed on production, this field has 26 wells with an average daily production of 1,500 bbls. The oil comes from the Sundance and Embar sands and has an asphaltic base. A lateral connects the field with the Grass Creek pipe line leading to Greybull and the field sends its production to the Standard of Indiana's refinery there.

The year 1926 showed that considerable trade was to be had in asphaltic by-products and therefore the Standard Oil Co. of Indiana has made preparations to place on the market 40,000 tons of asphalt during the year, 1927. Much of this asphalt output will come from the Greybull refinery and the Hamilton Dome Field and the Standard of Indiana has remodeled the Greybull plant in part to handle more asphalt crude.

The Producers & Refiners Corporation made a contract with C. E. Orchard of Wheeling, W. Va., who owned several leases in the Torchlight Field, Big Horn County, for the drilling and renovating of the shallow oil production there and also the drilling of a deep hole to see if there was a deep sand feeder to the Torchlight production. This field produces a high-grade crude from about 400 feet deep, but the wells are rather small.

Discovery in Park County

In March, the Ohio Oil Co. discovered oil in the deeper sands in the Oregon Basin Field, Park County. This oil was found in the Embar sand and proved to be a black crude. This is the first well to drill through the heavy gas pressure found in Oregon Basin about 1,700 feet and at first plans were made to shut in the well and hold back operation of the new field until a later date, but later these plans were changed and development decided upon at once. The Illinois Pipe Line Co. laid a pipe line from the field to Cody to serve that city with natural gas and later the same company laid a pipe line to a point on the Burlington Railroad about a mile east of Cody that will carry the oil production of the Oregon Basin Field to tank cars for shipment to a refinery.

Carter Ceases New Field Work

The Midwest Refining Co. took over the holdings of the Carter Oil Co. in the Maverick Springs Field, Fremont County, and the Carter Oil Co. signified its intention of withdrawing from active field work in Wyoming. It will continue to operate leases in the Salt Creek and Billy Creek fields however. The offices at Casper were transferred to Tulsa as were also the Denver offices and only a few men were left to look after the producing wells the company has in Salt Creek.

The Government Land Office was moved to Cheyenne in March as a part of the program of economy and in the same month a state law boosted the tax on gasoline from 2½ to 3 cents. The Government refused to lower the royalty on black oil leases and changed the requirements on permits so that a bond of $5,000 is required to obtain a permit on government lands.

The Lakota wells that were holding up the Salt Creek Field production were again shut in in March as the surface lines in the field were in shape to carry the oil from the Wall Creek wells.

The New York Oil Co. made the last $50,000 payment due on the pipe line from Salt Creek to Casper and took over this line from The Texas Company.

LaBarge Dry Territory

The Elkhorn Oil Co., drilling in the Big Piney structure near LaBarge, Lincoln County, found a dry hole and later on The Texas Company abandoned the LaBarge after drilling a number of diamond drill holes in this area. The results of the diamond was to condemn the whole territory leased by The Texas Company.

The Illinois Pipe Line Co. laid a 3-inch pipe line 4 miles to reach the Dutton Creek well of the Midwest Refining Co. in Albany County.

The Standard of Indiana officials and the officials of the Midwest Refining Co. met in a regular board meeting at Casper to lay out a program for the coming year. The resultant program called for retrenchment and economy throughout the two companies' operation in the Rocky Mountain Region.

Unit System Inaugurated

The unit system of operation was put into effect in the Elk Basin Field in northern Wyoming as a trial of this system. The Ohio Oil Co. and the Midwest Refining Co. controlled the Elk Basin Field and by reaching an agreement, this field will be operated without regard to lease lines, but for the better conservation of the production.

Two new pipe lines were proposed in April, one from the Hiawatha Dome and

(Continued on Page 256)

OIL WELL IN TURNER VALLEY GIVES WEST CANADA NEW ASPECT

By Victor Lauriston
Staff Correspondent, Canadian Fields

In the first six months of this year the two great centers of interest in oil development in the Canadian West have been the Turner Valley Field, in the Alberta foothills southwest of Calgary, and the portion of the Canadian Sweetgrass district south of Skiff. While the Turner Valley Field with five deep producers represents the larger immediate production, the new discovery at Skiff reveals very important potentialities.

On the last day of the first half of 1927 there occurred in the Turner Valley Field a development which materially altered the entire complexion of affairs in that rather puzzling field. Dalhousie Oil Co. No. 5, LSD 16, Section 30-19-2w5, encountered in the Fernie shales, overlying the Madison limestone, a flow of 42 Baume crude oil which on a 24-hour test showed a production of 190 bbls. This is the first test in the Turner Valley to get crude oil, entirely apart from crude naphtha, in the deep horizon; though a little earlier the Home Oil Co. in the same Fernie shale horizon got a small production of crude oil with considerable wet gas and naphtha.

The Dalhousie No. 5 strike indicates the strong probability that in the Turner Valley wells drilled at a sufficient distance from the wet gas well may secure actual crude oil production in quantity.

A year ago, in the Turner Valley, only one well, the Royalite No. 4, had secured deep production in the Madison limestone. Today there are five deep producers; in addition to which, several wells have a fair commercial production of light crude in the Dakota sand. The Turner Valley production is at last on a commercial basis, the crude naphtha commanding a contract price of $3.95 per barrel, and the light crude a price around $2.95.

Though drilled very largely in 1926, it was not until early in 1927 that the new Turner Valley deep producers were actually placed on a production basis. The latest summary of the Turner Valley Field shows the following producers, in addition to the Dalhousie's new well:

Crude naphtha wells—	Bbls. per day
Royalite Oil Co. No. 4	600
Vulcan Oils No. 1	115
Illinois-Alberta No. 1	87
McLeod No. 2	50
Home Oil Co. No. 1	60
Total	912

Crude oil producers—	Bbls. per day
McLeod Oil Co. No. 1	9
New McDougall-Segur No. 1	70
Home Oil Co. No. 1	42
Total	121

To this may be added a daily production from the wet gas of Royalite Nos. 1, 2 and 3 wells of 24 bbls. of casinghead

(Continued on Page 201)

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Deaths of the Half Year Were Many

In the Long List Are Names of Men Internationally Known, Producers, Refiners, Supply Men and Workmen

The list of those whose useful lives in the oil industry were ended in the first half of this year is a long one. It includes men internationally known; individual producers and refiners and executives of large and small oil companies; manufacturers of oil field and refinery supplies, and workmen engaged in one or another line of activities in the oil business. The list of deaths for the first six months in the year is given below chronologically.

January

Robert McLenahan, aged 59, veteran oil country blacksmith and tool maker, died January 1 at his home in Bradford, Pa.

Charles E. Easley, chief engineer of the Tonkawa, Okla., natural gasoline plant of the Gypsy Oil Co., and Albert Cravens and Charles Dwelly, employes, died January 2 as the result of an explosion and fire at the plant.

William Edward Albert Richards, age 83, died January 2 at his home in Warren, Pa. Mr. Richards was said to be the first operator to manufacture natural gasoline from casinghead gas. He was a large stockholder in the Jefferson County Gas Co. and was widely known in Pennsylvania oil circles.

Ranson Y. Mitchell, age 84, died January 1 of stricture of the throat at his home in Findlay, Ohio. Mr. Mitchell was one of the oldest living operators, having operated in the early days in the McKean County, Pennsylvania, fields and later in the West.

James C. Donnell, age 72, died January 10 from a heart attack induced by influenza at his home in Findlay, Ohio. Mr. Donnell was president of the Ohio Oil Co. He entered the oil business at the age of 18 in Crawford County, Pennsylvania, beginning by hauling oil from the field to a refinery in Titusville. Later he became an independent operator in the Bradford Field and in New York State in the Richburg and Allentown fields and in the Ohio fields.

Harry Aid, age 29, zone geologist for the Gulf Production Co., died January 7 at his home in Fort Worth, Tex. Death was attributed to fever contracted in the tropics.

T. T. Smith, driller for the Magnolia Petroleum Co., was killed at Iowa Park, Tex., by a hose nozzle falling 30 feet and striking him on the head.

A. Edwin Aggas, age 54, oil accountant, died January 5 at his home in Tulsa, Okla.

Edwin F. Black, age 51, veteran tank builder, died January 10 at a Tulsa, Okla., hospital from an attack of influenza. Mr. Black was vice president of Black, Sivalls & Bryson and had spent virtually all of his career in the tank building line of the oil industry.

Ellis Victor Smith, age 25, gas inspector for the Southern Ontario Gas Co., died January 8 at Chatham, Ontario, as a result of injuries received in a well explosion.

James Beresford, age 80, formerly prominent in the Petrolia oil field, died January 2 at the Victoria Hospital, London.

E. M. Telle, age 52, lease broker and owner of the E. M. Telle Refining Co. and the Telle Pipe Line Co., died January 15 at his home in El Dorado, Ark.

Frank Harman, age 56, pioneer drilling contractor in Oklahoma, dropped dead January 15 at the home of his sister in Pittsburgh, Pa. Mr. Harman was just returning from 23 years in the tropics, having been retired from the India-Burma Petroleum Co. on December 1.

Viscount Bearsted, founder of the Shell Transport & Trading Co., died January 10 at his residence in London. Viscount Bearsted entered the oil business in a small way as the shipper of oil from Russia to the Far East and subsequently introduced the transportation of oil in bulk through the Suez Canal. He is said to have done more than any other British subject to develop the oil fields of the East.

Gilbert Heydrick, civil engineer, died January 15 in Alexandria, La. His home was in Wichita Falls, Tex., where he conducted the Heydrick oil field mapping business.

Charles H. Rawlings, age 57, driller of Chatham, Ontario, died January 20 at Long Beach, Calif.

Thomas J. Ryder, age 62, pioneer oil man and president of the Rycade Oil Corp., died January 19 at the Postgraduate Hospital in New York.

Dr. M. P. Cullinan, age 62, president of the Border Gas Co., died January 20 at his home in Laredo, Tex.

Henry N. Winner, age 47, general manager of the Garlock Packing Co., Palmyra, N. Y., died January 21 at Philadelphia. Mr. Winner had spent his entire life in the mechanical packing business and had served with several other packing companies, among them being the Johns-Manville Co., as sales manager, and the United States Rubber Co., as manager of the packing department.

E. A. Doran, age 55, prominent California operator and president of the Doran Oil Co., died January 22 from heart disease at his home in Los Angeles, Calif.

Dr. Howard Weber, age 65, pioneer Oklahoma oil producer, died January 29 from heart disease at his home in Bartlesville. Doctor Weber was prominent in the development of the fields in Washington County and in the Glenn Pool and Cushing Pool in Oklahoma and the Burkburnett Pool in Texas.

Edward T. Dumble, age 64, former vice president and manager of the Rio Bravo Oil Co., and a pioneer geologist in the Southwest, died January 20 at Nice, France.

J. D. McArthur, age 73, prominent in oil development in Canada, died January 29 at Winnipeg, Canada.

February

Charles D. Gillespie, oil operator, died February 1 at his home in Toledo, Ohio, after a prolonged illness.

Cyrus Benefield, age 57, died February 1 at his home in California.

Noble Clark, age 75, superintendent of the National Transit Co., died February 2 as the result of a stroke of paralysis at his home in Warren, Pa.

W. W. McGowan, age 35, formerly of Tulsa and Okmulgee, Okla., died February 7 at his home in Nevada, Mo. Mr. McGowan was associated for 10 years with C. L. McMahon, oil producer in the Mid-Continent Field.

George P. France, age 44, for many years chemist for Imperial Oil, Ltd., died February 1 as the result of a bullet wound inflicted by an intruder at Mr. France's summer home.

Joseph Burns, age 52, died February 5 at his home in Muskogee after a lingering illness resulting from an automobile accident. Mr. Burns was vice president and general manager of the Penmar Oil Co. and president of the Burns Tool Co. of Okmulgee.

Ivan S. Parkhurst, petroleum engineer of the Empire Refineries Co., Bartlesville, Okla., died February 8 in Oklahoma City.

James Robert McDonald, age 30, was found dead in bed at his home in Eureka, Kans.

Patrick Yorke, age 74, died February 12 at his home in Washington, Pa., after a lingering illness. Mr. Yorke's inventions and innovations have revolutionized oil and gas operations throughout the world. The first pair of all steel bits were manufactured and used by Mr. Yorke, and he was also the first driller to realize that the twist in the rope cables of hemp and sisal would sufficiently turn bits in the hole.

Franklin Fertig, age 82, died February 14 at his home in Pasadena, Calif. He was a pioneer operator in the Pennsylvania fields.

John Wesley Thompson, age 33, was instantly killed February 18 by the explosion of a boiler in the oil field at Sullivan, Ind., where he was employed as a driller.

Leon Polk, age 19, was killed at Borger, Tex., when a cable became entwined about his neck and dragged him over the bull wheel.

James J. Grant, contractor, died February 15 at the home of his father-in-law at Burkesville, Ky.

Mrs. Eleanor Spellacy, wife of Simon Spellacy, died February 11 at the home of her daughter in Sidney, Ohio. Death was due to heart disease.

Silas Baldwin, age 84, died February 10 at the home of his daughter in Bradford, Pa. He had been active in the Pennsylvania oil fields since 1860.

A. M. Sellery, for more than 10 years connected with the land department of the Ohio Oil Co., died February 17 at El Paso, Tex., from black jaundice.

Lewis D. Perrine, age 82, a pioneer oil man of the Pit Hole excitement, died February 7 at his home in Butler, Pa.

Bernard Staab, age 22, died February 26 at his home in Oil City, Pa. He had been employed in the Clarion County fields.

William Kratzer, age 104, died February 24 at his home in St. Petersburg, Pa. He had lived in Clarion County all of his life and was one of the pioneer operators of that part of the State.

William Lincoln Dunn, age 63, president of the Dunn Manufacturing Co., died February 25 at his home in Oxnard, Calif., after a protracted illness. Mr. Dunn drilled one of the first wells in Oil Creek and operated as an oil well drilling contractor for a long period throughout Ohio, Illinois and Indiana. In 1911 he went to Oxnard, Calif., and was instrumental in forming the Dunn Manufacturing Co., of which he had since been president.

Tom Payne, Oklahoma oil operator, died February 28 at his home in Okmulgee. It was through Mr. Payne's influence and assistance that the Bald Hill Pool in Okmulgee County was discovered.

Alfrid Forian, age 48, one of the best known drillers in foreign fields, died February 12 at Miri, Sarawak, Borneo, of malaria.

March

William Nolan Sheehan, age 24, died March 2 at St. Luke's Hospital in Kansas City after a seven weeks' illness. His home was in Tulsa, Okla., where he was connected with the Sheehan Pipe Line Construction Co.

John McMurray, age 39, died February 6 at a hospital in Tulsa, Okla., from a throat irritation and heart disease. He was formerly assistant to the head of the land department of The Texas Company.

Kasper Kugler, age 84, died March 1 at Oil City, Pa. Mr. Kugler was first to make a large set of drilling tools, also a set of jars used in drilling, and had a patent on a temper screw.

H. J. Slicker, age 66, prominent oil and gas producer, died March 3 from an apoplectic stroke at his home in Knox, Pa. He was a prime mover in founding the Alum Rock Gas Co. in 1903 and was president of the company until its sale in February, 1927.

William P. McKee, age 81, veteran gauger and retired employe of the National Transit Co., died March 3 at his home in Clintonville, Pa., as the result of a stroke suffered in April, 1926.

T. J. Williams, for several years chairman of the marketing committee of the Standard Oil Co. of New Jersey, died March 8 at his home in Deland, Fla. Mr. Williams was connected with the Standard of New Jersey for 38 years, his first connection with the business being in Pennsylvania.

Charles Kelly Clark, age 62, president of the Standard Oil Co. of Louisiana, was found dead March 21 in the bathroom of his home at Baton Rouge, La. Mr. Clark began work at the age of 20 years as a common laborer with the National Transit Co., then to the Southwestern Pipe Line Co. as gauger and from there to the Buckeye Pipe Line Co. as oil purchasing agent. In 1909 he went to the Standard Oil Co. of Louisiana as superintendent of the pipe line department and was made vice president of the company in 1919. In February, 1926, he was elevated to the presidency.

John D. DeHart, aged 84, veteran oil operator, died at his home in Petaluma, Calif.

John H. Morrison, age 71, died March 15 at his home in Oil City, Pa. The past 16 years he has been president of the Franklin Foundry Co. of Franklin.

F. L. Clements, age 64, traffic manager of the Gulf Pipe Line Co. for 20 years, died March 20 at a hospital in Houston, Tex., after an illness of eight weeks.

Marion Henshaw, age 83, one of the first producers in Oil Creek, in Pennsylvania, died March 27 at his home in Butler, Pa.

Capt. Eugene P. Constantin, age 64, president of the Tonkawa Refining Co., died at his home in Tulsa after an illness of several weeks. Captain Constantin had been identified with the petroleum industry for 20 years. His boldest business venture was in 1918 when in company with E. E. Schock and a few other refiners he formed the Export Oil Corp. As president of this company he acquired an international acquaintance and was perfectly at home in many capitals of the Old World.

William E. McBride, pioneer oil man, died March 15 in the Queen of Angeles Hospital, Los Angeles, Calif.

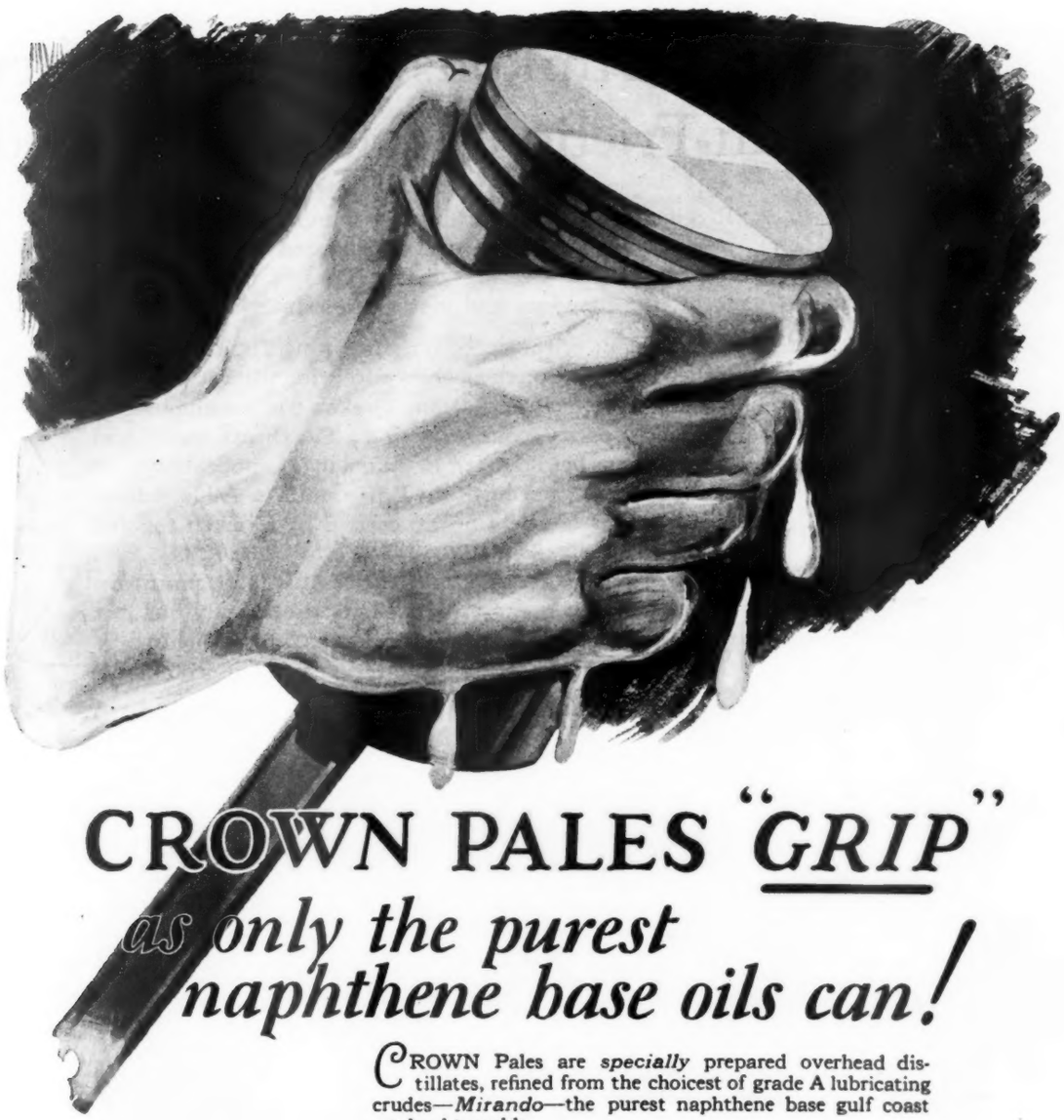
W. R. Stewart, age 73, one of the pioneers in the oil industry, died March 24 at the County Hospital as the result of a cerebral hemorrhage. He founded the Stewart-Union Petroleum Co., later the Stewart Petroleum Co., and the Union Petroleum Co., being one of the very first to enter the marketing business.

William Lindsay, age 87, died March 24 at Oakland, Calif. About 35 years ago he went to Brisbane, Australia, with the International Deep Well Co., of which he later became president and managing director.

William Gustin, age 42, purchasing agent for the Mammoth Oil Co., died March 27 at the Salt Creek Field Hospital after an accident on the Salt Creek highway from which pneumonia developed.

Paul Arbon, president of Paul Arbon & Co. of Tulsa, the inventor of many well-known oil field equipment specialties bearing his name, died March 11 in Paris, France. Throughout the European war Mr. Arbon served as a flight commander in the British Royal Flying Corps. Prior to going to Oklahoma, where he built up his business, he was with Messrs. Le Grand & Sutcliffe, Messrs. Yarrow and the Glengall Iron Works, Millwall. With the oil fields of the States at his doors in Tulsa, he was able to study production problems and the like on the spot, and his inventive genius led to the production of many specialties for oil field use. Several years ago Vickers, Ltd., got in touch with Mr. Arbon, since which time they have manufactured in England many of these equipment de-

(Continued on Page 198)



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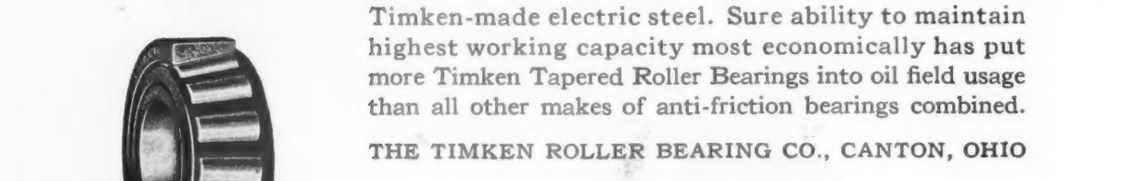
THE TIMKEN ROLLER BEARING CO., CANTON, OHIO



TIMKEN
Tapered
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Export Market for Bulk Oil Growing

Low Prices Expected to Lead to Greater Consumption and Eventually to More Satisfactory Conditions

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, July 25.—A retrospect of the oil export market of the first six months of 1927 might give rise to much pessimism, yet it is generally recognized that there is no greater field for development of markets for American petroleum products than abroad. Low prices and keenly competitive conditions may result in unprofitable operations, but at the same time they lead inevitably to greater consumption. And in the past, this greater consumption has led to more satisfactory price levels. The export market has had its period of low prices; exporters now look forward with confidence to the fruits of greater consumption.

There are several factors which further assure this increase in demand. One is the introduction of small cars in Europe; the popularizing of the automobile for use in pleasure and business. Next to this factor is the realization that a nation, to keep up with others industrially and in fighting ability, must use modern methods of transportation, all of which involve the use of oil both as lubricant and fuel. Great Britain found this out during its general strike of last year and its various coal strikes. Other nations are coming equally to realize the value of the motor vehicle, the Diesel-propelled ship and the airplane.

In appraising the oil export markets, the two sides of the situation which determine buying and prices are the attitude of sellers and attitude of buyers. There are numerous American oil companies selling to foreign subsidiaries in a routine manner and going along generally with the market, whatever it may be. Then there is the independent foreign buyer and the independent American seller, who through bargaining are believed to be the real makers of prices. There are, indeed, Rumanian and Russian marketers, but the statistics show that American companies supply more than 50 per cent of the world's oil consumption outside the United States—nearer 75 per cent, in fact. The American independents supply at least twice as much oil as the other independents combined.

Foreign independent buyers of oil from American independents are noted for their sagacity. They are able to appraise our markets here at times better than we ourselves, probably due to their long-range view of the situation. For this reason, so long as there is a chance in their opinion, of lower prices in the United States, they hold off buying. In the past six months this attitude of hesitancy has been particularly noticeable, and it is only in the past few weeks that substantial orders have been placed here for oil products, and at prices which are believed to be the lowest reached in many years. When U. S. Motor gasoline can be had at the Gulf for around 6½ cents a gallon, the foreign buyer is not so disposed to hold off, in as much as according to the best indications not a great deal of gasoline can be sold at that price and allow the seller to continue in business.

The ability of foreign independents to buy cheap gasoline and other petroleum products in the United States has been reflected in low selling prices abroad. This competition has been met by the larger companies. The net result has been generally low price levels for petroleum products, which are selling in many instances for just half the quotations prevailing a year ago. The outstanding fact, however, is that recently there has been important buying of American oil products by foreign independent marketing companies usually buying elsewhere for the first time in many weeks, and this, to many, is an indication that prices are on bottom.

The bulk export market for oil products consists, as is generally known, of shipments in bulk tankers, largely to Europe. The market for bulk oil is growing more rapidly than that for cased or barreled products, in as much as with greater consumption, bulk shipments become more economical than shipments in containers. Whereas the bulk market for all products except fuel oil used to be confined largely to Europe, at present bulk shipments of kerosene are being made to the Far East, and bulk shipments of gasoline, kerosene and lubricating oil are made to South America. Africa receives an occasional bulk shipment going to Morocco or Algeria, but southern Africa uses oil only in containers.

For the first time this year Argentina and Brazil received bulk cargoes of lubricating oil from Atlantic Seaboard refineries. An occasional bulk cargo of kerosene went from here to India, but beyond that and the usual bulk shipments to Europe, the bulk market was supplied by Gulf Coast and California refiners.

The Atlantic Seaboard has only a nominal bulk export price, in as much as there is practically no open market here. Most of the shipments in bulk from this coast are on consignment from American companies to their foreign subsidiaries. Therefore, it is not feasible to quote Atlantic Coast bulk prices. Where these exist, they are based on Gulf quotations, plus the difference in freight between the Gulf and Atlantic to port of destination. Strange to say, the differential, which used to be one-half cent a gallon, now varies, with the urgency or quantity of the sale.

Although bulk export shipments on the Atlantic Coast were less in the first six months of 1927 than in the corresponding perior of 1926, bulk shipments from all ports of the country were larger. The Gulf Coast and California were the largest exporters in bulk, as a result of the heavy refinery production in these districts. At the close of the six months period this year, California shipments were extremely heavy to Europe and the Far East, but it was noticed that substantial withdrawals from storage are being made on the coast and it is possible California will become less of a factor.

Cased Oil Market

New York has a large market for cased oil products, in as much as the three major oil refineries here are equipped with case factories. The cased oil shipments, consisting principally of gasoline and kerosene, go to the Far East, Africa and South America. During the first six months shipments of cased oil were considerably below normal. Refineries here have a capacity for turning out cases at the rate of over 50,000 a day, but actual shipments ranged from 30,000 to 41,000 a day, according to available export figures, during the first six months of this year. Daily average shipments in cases by months were approximately as follows: June, 30,000 cases; May, 38,000; April, 41,000; March, 35,000; February, 35,000, and January, 33,000. These shipments were about equally divided as between gasoline and kerosene. The explanation of the small shipments lies in smaller exports of kerosene to the Orient.

The largest shipments of gasoline and kerosene in cases from the port of New York are made to Japan, China, Australia, New Zealand, the Dutch East Indies, South and West Africa, Brazil and Argentina. There have been practically no shipments to New Zealand in recent months, and those to China and Japan have been small. Presumably these countries are getting more of their requirements from other sources. Shipments of lubricating oil in cases from New York are comparatively small, running in the neighborhood of 2,000 cases a day.

The Standard Oil Co. of New Jersey publishes export prices covering United States Motor gasoline, standard white kerosene and water white kerosene, in cases. These quotations show a steady decline during the first six months of 1927.

Gasoline in cases opened the year at 27.65 cents a gallon and was reduced successively to a low of 23.90 in April. It recovered later to 24.90 and then dropped again to 24.40 at which price it now stands. The low quotation of 23.90 cents compares with a peak in 1926 of 29.40 cents, in June.

Standard white kerosene in cases is now quoted at 16.15 cents a gallon, and water white at 17.15 cents. The high this year was 19.15 and 20.65 cents, respectively. Present prices are the lowest of this year.

Barrel Export Trade

Oil products exported from New York in fairly large quantities in barrels include lubricating oil, lubricating grease, crude paraffin wax and petroleum asphalt. Shipments of lubricating oil in barrels exceed shipments of the same product in bulk or in cases, averaging from 4,000 to 6,000 bbls. daily.

The exportation of crude wax in barrels has been growing steadily and now equals or exceeds by a small margin shipments of refined wax in bags. This is due in part to the establishment of refining plants abroad.

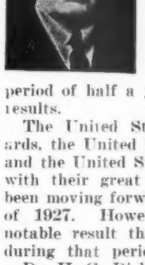
Petroleum asphalt is a major export oil product at New York. Most of it is shipped in barrels in consignments ranging from 1,000 to 20,000 bbls. Australia is one of the largest buyers.

The total exportation of oil products in barrels probably averages around 7,000 to 8,000 bbls. a day. The barrels are made principally at the refining plants most of which are equipped with barrel factories.

PROGRESS IN SCIENTIFIC SIDE OF OIL INDUSTRY IN HALF YEAR

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

The accumulation of scientific data is a slow process. The road of investigation leading to the announcement of scientific conclusions is long. For that reason the scientific bureaus of Washington that deal with petroleum and its products in the various phases in which the oil industry is interested do very little within a period of half a year to develop positive results.



The United States Bureau of Standards, the United States Bureau of Mines and the United States Geological Survey, with their great force of experts, have been moving forward during the first half of 1927. However, there is no very notable result that has been announced during that period.

Dr. H. C. Dickinson, in charge of the section known as the Heat and Power Division of the Bureau of Standards, referring to events of the last six months in this division, today said:

"Projects of various kinds which have to do directly or otherwise with petroleum products occupy a considerable place in the progress of the Bureau of Standards. It is, however, largely a matter of chance whether, for any given period of time such as a current year, any one of these different projects yields a spectacular and finished result.

"Among the activities referred to above are the following:

"There seems to be a growing desire on the part of the various laboratories throughout the country, engaged in testing of petroleum products, to secure increased uniformity among themselves and with the Government. For this purpose the bureau has made many laboratory tests of samples submitted by other laboratories, not to mention the testing of laboratory instruments and thermometers and volumetric glassware.

Of Mutual Benefit

"A day's visit of about 40 men from the laboratories of members of the National Petroleum Association, during which these men witnessed the work being done in the various bureau laboratories, was we believe, of much mutual advantage in the matter of precise and uniform testing, and it is hoped that this visit will be repeated annually.

"A revision of the government specifications for lubricants and liquid fuels, Bureau of Mines Technical Paper 323-A, has been made during the year. This revision is to only a small extent the work of the Bureau of Standards, being a joint undertaking of a technical committee of the Federal Specifications Board.

Studying Lubrication

"An extended study of the behavior of lubricating oils in engine operation at low temperatures has been completed and will be reported shortly. Much of the experimental work was done some years ago and the coming report will be a summarization of results obtained during a number of years.

"There is in hand also a program for the securing of such complete and classified information on journal-bearing design and lubrication as will make it possible to present the results in handbook form and will permit the design of journals and the specification of oil viscosities for the same to be handled with certainty by the designer. At present journal-bearing design is almost entirely a matter of trial, or of previous experience with similar designs.

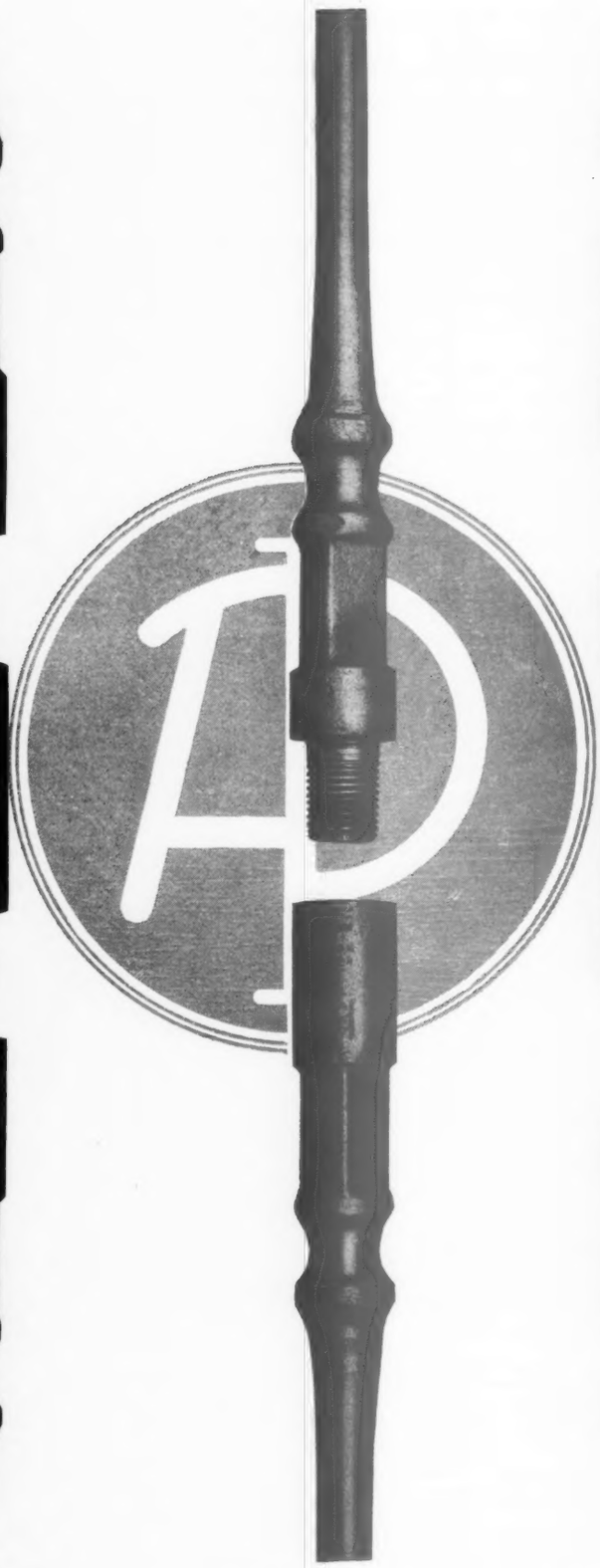
Cutting Compounds

"The subject of cutting compounds has been taken up for intensive study, as has that of tests for "oiliness" of lubricants. In fact, these two problems are very closely allied.

"Considerable progress has been made toward the preparation of accurate tables of the thermal properties, such as specific and latent heat, vapor pressures, densities, etc., of petroleum oils. The results so far obtained make it probable that these properties can be expressed in much less complicated form than has been done heretofore. A brief circular covering some of this work is available on request.

"The work of the Bureau of Standards on lubricants and liquid fuels has recently been concentrated in a separate section (Friction and Lubrication) in the Heat and Power Division."

A.P.I. STD.
DOUBLE BOX



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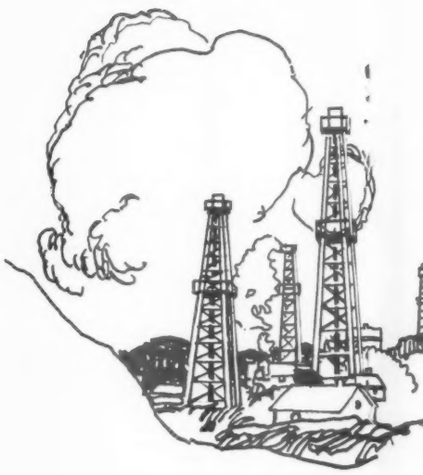

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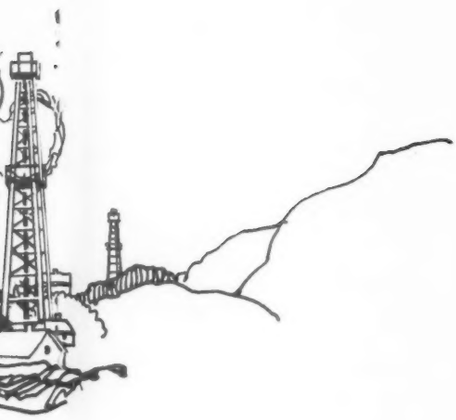

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NATL. STD. DOUBLE BOX

Oil Shares Were Active and Irregular

Twenty Representative Stocks, However, Show a Remarkably Steady Average. New Financing on Large Scale

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

Oil securities awoke from their lethargy of the last few years early in 1927, and during the first half of the year became active and highly irregular. Swings became wider and by the end of the period prices were widely removed from those of the beginning of the year in the majority of cases. There was no broad downward or upward movement of oil stocks as a group. About a third of the list showed heavy losses, a third heavy gains, and the remaining third failed to do much more than stay around levels which existed on January 1.

The Oil and Gas Journal's weekly average price of 20 representative oil securities remained surprisingly steady during the six months. This was largely because some of the stocks included in the compilation showed gains and other losses, the gains and losses about offsetting one another. The high point for the average was 61.13 on February 14 and the low point was 56.63 on April 4. The average opened the period at 58.94 on January 3 and closed at 58.99 on June 27, a net gain of .05. This will surprise many who have had the erroneous impression that oil securities as a whole have shown tremendous losses during the period under review.

An explanation of the failure of the average to show a big net change lies in the following table, showing changes in six of the stocks included in the compilation for the first six months of 1927:

Stock—	Jan. 3	June 27	Net gain
Prairie Pipe Line	132¾	180	47¼
Vacuum Oil	95¼	132	36¾
Atlantic Refining	110⅛	111¾	1⅝
			Net loss
Pan American B	62	56¼	5¾
Standard of California	58⅛	51¾	6⅜
Gulf Oil	95¼	90⅛	4⅛

Among the group not included in The Oil and Gas Journal weekly average are the following stocks, with their high and low price for the six months:

	High	Low	Present	Loss or gain from high
Marland Oil	58½	31	34	—24½
Phillips Petroleum	60¼	38	40	—20¼
Houston Oil	174½	60⅛	167½	+107⅜
Transcontinental Oil	9⅝	3¾	8¼	+4½

The two foregoing tables seem to prove that there was no definitely downward or upward trend to oil stock prices as a group during the six months. Their action probably indicates more than anything else the working of special speculative influences and the diversity of opinion regarding the situation in the petroleum industry.

In selecting securities for The Oil and Gas Journal's weekly average, an attempt has been made to include stocks representing the bulk of the assets of the oil industry as to all branches, including production, transportation, refining and marketing. Naturally, many representative stocks had to be omitted because of the small number used. The list of 20 stocks used is as follows: Atlantic Refining common, Pan American Petroleum B, Pure Oil common, Royal Dutch, N. Y. shares; Shell Union common, Sinclair Consolidated Oil common, Standard Oil of California, Standard Oil of New Jersey, Standard Oil of New York, Texas Corp., Tide Water Associated Oil common, Union Oil of California, Continental Oil, International Petroleum, Ltd.; Prairie Oil & Gas, Prairie Pipe Line, Standard of Indiana, Standard of Kentucky, Vacuum Oil and Gulf Oil Corp.

Financial Condition

An industry that has to borrow approximately a quarter of a billion dollars in six months cannot be said to be in a strong financial condition. Of course, this statement can be modified, but the fact remains that money does not have to be raised through financing when profits are such as to allow expansion and current operation to be carried on from earnings.

Thirteen oil companies accomplished new financing during the six months aggregating $277,500,000. A small part of this financing represented refunding operations. The issues follow:

Gulf Oil Corp.	$35,000,000
California Petroleum	8,000,000
Independent Oil & Gas	6,500,000
Skelly Oil	15,000,000
White Eagle Oil	5,000,000
Warner-Quinlan	2,500,000
California Eastern	12,500,000
Humble Oil & Refining	25,000,000
Shell Union Oil	50,000,000
Phillips Petroleum	40,000,000
Marland Oil	30,000,000
Empire Oil & Refining	30,000,000
Empire Gas & Fuel	18,000,000
Total	$277,500,000

In addition, several oil companies raised funds through the sale of common or capital stock. In all, new oil financing for the first six months of 1927 equaled $300,000,000. It is also worthy of mention that the Standard Oil Co. of New Jersey's new issue of $120,000,000 bonds came out late in 1926, with also an offering of common stock at $25 a share.

The new financing which has been done so far this year is the culminating point in several years of tremendous expansion in the petroleum industry. At least two billions of dollars have been invested in new facilities and equipment in the last two years, and between four and five billions since the close of the World War. At least half of this money came from earnings of the oil companies and half from the public through financing. The new financing has laid heavy interest charges on the industry, from which it was practically free prior to the World War.

The oil business in recent years has not proved as profitable as during the few years following the war. This is due partly to the heavy expenses entailed in expansion and partly to low prices resulting from overproduction. These two conditions go hand in hand. Until the overproduction has passed, the oil industry will be hampered by excess charges.

No Big Mergers

Several big oil company mergers were consummated in 1926. This tendency was entirely absent during the first half of 1927, despite the fact that it is recognized mergers make for stability in any business. Failure of the industry to effect further economies through consolidation is attributed to existing legal obstacles. Removal of these, it is believed, would prove a partial but quick remedy for the existing troubles of the industry. Incidentally, at the close of June of this year there seemed to be a noticeable lack of co-operation on the part of the oil producers with respect to curbing the production; conditions were at their worst. Therefore, it cannot be said that the second half of 1927 opens with any immediate prospect of improvement in the general situation.

However, in the opinion of men cognizant of financial conditions, the oil industry will find some difficulty in raising additional new funds through bond issues until the present large number of "undigested" issues is eliminated. It happens that a very large amount of financing has been done by industries other than oil. This, unfortunately, has created an unfavorable situation for the time being from the viewpoint of public oil financing. Frankly, the investment public needs a rest.

Oil Expansion

Expansion in the oil business in the first six months of 1927 was in two directions, first, in the opening of West Texas as a big oil producing area; second, in the natural gas industry. The feature of both of these developments was heavy pipe line construction. This expansion was offset in part by the closing down or curtailment in the refining end of the business, more especially in cracking operations.

Gas pipe line projects in the first six months included lines running from the Amarillo gas field in the Texas Panhandle, and those threading the Gulf Coast district. The Panhandle lines will cost something like $50,000,000; while the Gulf Coast lines will cost at least $10,000,000. When these projects are completed Panhandle natural gas will supply consumers in Denver and southern Colorado in Oklahoma, and as far north in the Mid-Continent as Kansas City; lines in the Gulf Coast will supply consumers in Houston and other cities, including the large oil refineries in the Houston and Port Arthur districts.

In the oil pipe line end, the development of the West Texas oil fields resulted in the construction of pipe lines either from that area to the Gulf Coast, or connecting with lines in the Mid-Continent. The Humble Oil & Refining Co. built two lines, one extending from the existing system and connecting with Houston; the other (still under construction) running from Pecos County to Ingleside, near Corpus Christi, on the Texas Gulf Coast. Gulf Pipe Line Co. is building a line from Crane County, West Texas, to connect with the lines running from Port Arthur. Pan American Petroleum and Magnolia have taken the matter of pipe line construction in West Texas under advisement. Smaller pipe lines have been constructed by the Illinois Pipe Line in West Texas, in conjunction with the development of the Pecos County oil field. In all, oil pipe line projects will entail an investment of at least $50,000,000.

Expansion has been the rule in the marketing end of the oil business largely through the construction of service stations. This has been due largely to competitive conditions and despite the general agreement among those familiar with the situation that there are far too many gasoline stations in the country already.

About-Face Essential

In the opinion of leading oil men and bankers, the industry will have to do an "about-face" in order to accomplish anything in the way of permanent improvement.

Some way will have to be devised to restrict oil production. All future prices, earnings, expansion, new financing and, in short, everything, depends upon the ability of the oil industry to bring this about. With this in view, the brains of the oil industry should have a clear goal, and it only remains for the oil men, bankers and the Government to provide the necessary co-operation.

BRADFORD AND ALLEGANY COMPLETE 1,134 WELLS IN FIRST SIX MONTHS

By George Turnbull

Outside of the Bradford and the Allegany oil fields there was little activity in the northern division of the eastern fields during the first half of this year. Even in Bradford and the New York State areas the amount of work under way was considerably below the plans of the various companies operating there. The reason for the depression was the low price of crude oil caused by overproduction in western fields. The old producing territories in Pennsylvania have not contributed materially toward the overproduction situation, but they suffer from the general depression, just the same.

A new high level of oil field operations was established in the Bradford Field during the past six months, but it was below the figures that had been planned by the oil men there.

In the Allegany Field there were 227 completions, which compares with 115 for the corresponding six months of 1926. Initial production credited to the new wells was 573 bbls. compared with 214 bbls. for the first six months of 1926. There were two dry holes in the 1926 period, but none for the first half of this year. Gas wells totaled two thus far this year and none for the first half of last year. These figures tell the wonderful manner in which operations in the New York State area have increased as the water flood advances and tests are made of other methods of producing more oil from the sands.

Busiest in 45 Years

Bradford from a statistical standpoint had one of the greatest years in its history since the heyday of that field, 45 years ago. Despite all this the oil operators in that district were not of a cheerful frame of mind as the half year ends, on account of the low price of crude oil and they as a result are curtailing their operations materially wherever that is possible. During the first half of this year, however, the figures on field work in the Bradford Field were exceptional, probably the largest that they have been since the days the field was producing 100,000 bbls. a day.

In the Bradford Field for the first six months there were 907 completions, which compare with 542 for the first six months of 1926. The initial production credited to this year's completions totaled 1,986 bbls. compared with 1,341 bbls. for the first six months of 1926. There was one dry hole compared with four for the corresponding period of 1926. Gas wells aggregated two compared with one for the first six months of last year.

Forest Oil's Great Record

One remarkable feature of the six months was the record established by the Forest Oil Corp., believed to be a record for operations on any one property in the country. This concern in 303 days completed 355 wells on the former J. T. Jones property in the Bradford Field. The first string was started on the property August 12, 1926, following its purchase by the Forest Oil Corp. Of the 355 completions 142 were water and 213 oil. The program of the Forest Oil Corp. on this property calls for the drilling of 133 more wells there.

The activity in the Bradford Field and the employment of scientific methods of oil production there has had a great effect on the actual output of crude oil in that territory. Production there during the first six months of this year is estimated to have averaged about 14,000 bbls. a day compared with 5,000 bbls. daily a few years ago.

Three Deep Tests

A great deal of interest is centered in three deep tests, which are now drilling in this territory: The United Natural Gas Co.'s well No. 3737 near Kane, the

(Continued on Page 204)

400 "EXTRA DRY"

Motorists Everywhere are Turning to Shell

—That's Why Jobbers "Change to Shell"

Here are the three big reasons why Shell is so rapidly forging to the front . . . becoming the most sought-after brand in the field.

Product — 400° end point gasoline of Shell Quality . . sold to the public at no advance in price.

Name — 400 "Extra Dry" . . the name under which this gasoline is marketed . . has caught the public fancy and produced surprising sales increases.

Advertising — Lots of it! . . Newspapers and poster boards have featured the advantages of 400 "Extra Dry" . . the demand has been created, built up and swept along with irresistible force.

Any jobber . . . who can obtain the Shell franchise for his territory should take advantage of this opportunity while it still exists

ROXANA PETROLEUM CORPORATION
SHELL BUILDING . . *SHELL CORNER* . . SAINT LOUIS

Change to SHELL

Gasoline and Motor Oil

Low Refined Prices First Half Year

All Products Lower Than Previous Year. Refinery and Natural Gasolines Hard Hit. Wax Has Big Slump

By C. O. Willson

The first six months of 1927 was a period of exceptionally low prices for the refiner of petroleum products and the manufacturer of natural gasoline.

While price data exactly comparable are not available it is no exaggeration to state that never since prewar days has the American refiner taken as low average prices for his products the first half of the year as he did for the six-month period ending June 30. It is needless to state that this fact does not necessarily mean that it was the worst period from the standpoint of profits although individual operators can be found who would be willing to give assent to that statement.

When considering profits it is necessary to take into consideration the fact that the refiners have been able to buy their crude supplies—considered as a unit—at relatively low prices. There is the additional fact that changes in manufacturing processes which bear little resemblance to the practices of 10 or even 5 years ago, have greatly complicated the matter of making annual or semi-annual comparisons as to profits. For instance in regard to gasoline it is necessary to take into consideration that the average recovery from crude is double what it was a few years ago. This has meant the former comparisons between crude oil and gasoline prices from the standpoint of refinery profits no longer apply. Other developments in the refinery practices have tended in general to reduce the manufacturing cost of the several products secured from crude oil.

However, giving due allowance to greater efficiency in plant operation, it is nevertheless true that the first six months of 1927 were just as unsatisfactory to the refiner and natural gasoline manufacturer as they were to those producers of crude oil who were not in a position to benefit from the large flush production of a few new fields.

All Products Down

As shown in the accompanying table which gives the weekly prices on all the principal refined products, the year opened with quotations at satisfactory levels. Shortly after the first of the year it was apparent that the industry was confronted with an overproduction of crude oil. Important reductions in the posted crude schedules were made in February and March and refinery products including the output of the natural gasoline plants quickly reflected this weakness.

As shown in the accompanying summary table based on weighted average prices, the decline in prices applies to the by-products as well as the principal products around which the profits of the industry center. This included the products which come under the general headings of kerosene and distillates and fuel oil and gas oil. Previous to this year the general trend of prices on these products has been upward, a development of both an increased demand and a tendency to limit the production due to the increased yields of gasoline from crude.

Gasolines and Naphthas

Gasoline and naphtha prices at refineries dropped to the low level of the past 10 years. In Oklahoma for instance U. S. Motor gasoline in March and April dropped to a low of 6¼ cents. This low level was never before reached in the recent history of Oklahoma except for brief periods in the falls of 1923 and 1924. The fact that the drop this year came early in the year at the beginning of the gasoline-consuming season worked a special hardship on the refining fraternity. In May and June, Oklahoma refiners and others located in the Mid-Continent Field were able to advance their prices slightly but along the Atlantic Seaboard the six months ended with no improvement noted in prices.

In Oklahoma, the 58-60 U. S. Motor grade of gasoline brought an average weekly price of 7.22 cents for the first half of the year. This compares with an average of 10.53 cents the first half of last year and an average of 10.31 cents for the entire year. The average price for 1925 was practically the same as in 1926.

A comparison of the higher gravity gasolines shows a continuance of a trend which has been underway for the past three years. The average price in Oklahoma on 60-62 400 endpoint gasoline was 7.81 cents, or only .59 cent more than 58-60 U. S. Motor. The average on the aviation grade (64-66 375) was 8.26 cents

THE OIL AND GAS JOURNAL'S TABLE FOR FIRST HALF OF 1927, GIVING LOW WEEKLY QUOTA FOR THE FIRST SIX MONTHS OF 1927 AND THE YEARS

	January				February				March			
	4	11	18	25	1	8	15	22	1	8	15	22
GASOLINE AND NAPHTHA—												
Oklahoma (Group 3):												
50-52 450 endpoint	.09	.08⅞	.09	.08¾	.08¾	.08⅝	.08⅝	.08	.07¾	.07½	.06¾	.06¼
56-58 450 endpoint	.08¾	.08¾	.08⅝	.08½	.08½	.08⅜	.08½	.08	.07½	.07	.06½	.06⅛
58-60 437 endpoint (U. S. Motor)	.09	.09	.08⅞	.08¾	.08⅝	.08½	.08	.08	.07½	.07⅛	.06⅝	.06⅛
60-62 400 endpoint	.10	.10	.09⅝	.09¾	.09⅝	.09⅝	.09⅛	.08¾	.08¼	.08	.07½	.07
64-66 375 endpoint	.10⅝	.10⅝	.10⅛	.10⅛	.10¼	.10¼	.10	.09⅛	.09	.08¾	.08¼	.07¼
68-70 360 endpoint	.11¼	.11¼	.11⅛	.11⅛	.11	.11	.10⅝	.10¼	.09⅝	.09½	.08¾	.07⅝
Kansas:												
58-60 437 endpoint (U. S. Motor)	.09½	.09¼	.09	.09	.09	.09	.09	.08¾	.08	.07½	.07	.06½
North Texas:												
58-60 437 endpoint (U. S. Motor)	.09	.09	.08¾	.08¾	.08⅝	.08½	.08⅝	.08¼	.07⅝	.07⅛	.06¾	.06¼
64-66 390 endpoint	.10⅝	.10¼	.10¼	.10¼	.10	.09⅞	.09⅝	.09¼	.08¾	.08½	.08	.06⅝
North Louisiana:												
56-58 437 endpoint (U. S. Motor)	.09	.09	.09	.09	.09	.09	.09	.08½	.08	.07½	.07	.06½
Pennsylvania:												
52 Naphtha	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11	.10¼	.09⅛
58 Gasoline	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11⅛	.11¼	.10⅛	.09
60 Gasoline	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.12⅛	.11¼	.10
64 Gasoline	.13¼	.13¼	.13¼	.13¼	.13¼	.13¼	.13¼	.13¼	.13¼	.13	.12	.10⅝
California:												
58-60 437 endpoint (U. S. Motor)	.10	.10	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10	.09
NATURAL GASOLINE—												
Oklahoma (Group 3):												
Grade A, 72-79.9, 375 endpoint, rec. 90%	.09½	.09	.08¼	.07½	.07½	.07¾	.07½	.07	.06½	.06¼	.05¼	.05
Grade AA, 80-87.9, 375 endpoint, rec. 90%	.09½	.09	.08	.07¼	.07¼	.07¼	.06⅞	.06½	.06	.05¾	.04⅞	.04½
Grade B, 76-83.9, 375 endpoint, rec. 85%	.08½	.08	.07¼	.06½	.06½	.06⅜	.06⅜	.05⅞	.05⅞	.05	.04½	.04¼
Grade BB, 84-92, 375 endpoint, rec. 85%	.08½	.08	.07¼	.06¼	.06¼	.06	.05½	.05⅛	.05⅛	.04¾	.04	.04
Grade C, 80-90, 375 endpoint, rec. 78%	.08¼	.08	.06⅞	.06	.06	.06¼	.05⅝	.05	.04⅝	.04¼	.03⅝	.03½
North Texas:												
Grade A, 72-78, 375 endpoint, rec. 90%	.09⅝	.09⅛	.08⅛	.07½	.07½	.07⅝	.07½	.07	.06½	.06¼	.05⅛	.05
Grade B, 76-83.9, 375 endpoint, rec. 85%	.08½	.08⅛	.07½	.06½	.06½	.06⅝	.06½	.05⅞	.05⅝	.05	.04½	.04⅛
Grade C, 80-90, 375 endpoint, rec. 78%	.08⅝	.08	.06⅝	.06⅛	.06	.06⅛	.05⅝	.05⅛	.05	.04¼	.04	.03⅝
California:												
75-85 370-390 endpoint	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.11½	.11
BURNING OILS—												
Oklahoma (Group 3):												
41-43 water white Kerosene	.06	.06	.05¾	.05¾	.05¾	.06	.06⅛	.06	.05⅝	.05¾	.05⅛	.04¾
42-44 water white Kerosene	.06⅜	.06½	.06⅛	.06⅛	.06⅛	.06⅝	.06⅝	.06⅝	.06⅜	.06⅛	.05⅝	.05⅛
Kansas:												
41-43 water water white Kerosene	.06½	.06½	.06⅛	.06⅛	.06⅛	.06⅜	.06⅜	.06⅛	.06⅛	.06⅛	.06	.05⅛
North Texas:												
41-43 water white Kerosene	.06⅛	.05⅞	.05⅝	.05⅝	.05⅝	.06	.06	.06	.05⅝	.05½	.05	.04⅝
Pennsylvania:												
43 Kerosene prime white	.08¼	.08	.08	.08	.07¾	.07¾	.07⅝	.07⅜	.07⅜	.07	.06¾	.06½
45 Kerosene water white	.08⅛	.08⅛	.08⅛	.08⅛	.08	.08	.07⅞	.07½	.07½	.07¼	.07	.06⅝
California:												
38-40 water white Kerosene (high burning test)	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
Engine Distillate, 43-45 445 endpoint	.07⅝	.07⅝	.07⅜	.07⅜	.07⅝	.07⅝	.07⅝	.07⅝	.07⅝	.07⅝	.07¼	.07
Engine Distillate, 42-44 480 endpoint	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07	.06⅞
FUEL OILS—												
Oklahoma (Group 3):												
Below 18 Fuel Oil, bbl.	1.22½	1.20	1.20	1.20	1.17½	1.17½	1.17½	1.17½	1.15	1.10	1.07½	1.07½
24-26 Fuel Oil, bbl.	1.27½	1.27½	1.27½	1.27½	1.27½	1.25	1.25	1.25	1.25	1.25	1.22½	1.17½
32-36 Gas Oil	.04½	.04½	.04½	.04½	.04½	.04¼	.04¼	.04¼	.04½	.04¼	.03⅞	.03⅝
38-40 Straw Distillate	.05¼	.05⅛	.05⅛	.05	.04⅞	.04⅞	.04⅝	.04½	.04½	.04⅜	.04¼	.03⅝
KANSAS—												
24-26 Fuel Oil	1.40	1.40	1.40	1.40	1.40	1.40	1.45	1.45	1.45	1.45	1.40	1.37½
North Texas:												
24-26 Fuel Oil	1.52½	1.52½	1.52½	1.52½	1.52½	1.52½	1.55	1.55	1.55	1.55	1.50	1.30
32-36 Gas Oil	.04⅝	.04⅝	.04⅛	.04¼	.04¼	.04½	.04¼	.04¼	.04⅛	.03⅞	.03⅝	.03½
38-40 Straw Distillate	.05	.04⅞	.04⅝	.04⅝	.04⅝	.04⅝	.04⅜	.04½	.04½	.04¼	.04¼	.03⅝
North Louisiana:												
18-20 Fuel Oil	1.20	1.20	1.22½	1.25	1.30	1.30	1.30	1.30	1.30	1.25	1.25	1.20
Gulf Coast:												
Fuel Oil, bbl.	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.60	1.60
Gas Oil	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05⅛	.05¼
Pennsylvania:												
30-34 Fuel Oil	.06¼	.06	.06	.06	.06	.06	.06	.06	.06	.05⅞	.05⅝	.05⅝
36-40 Fuel Oil	.06⅜	.06¼	.06¼	.06½	.06½	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06⅛
California:												
27-32 Distillate	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½
15-20 Fuel Oil (tidewater) Bunker	.92½	.92½	.92½	.92½	.92½	.92½	.92½	.92½	.92½	.92½	.92½	.92½
27 plus Diesel	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
LUBRICATING OILS AND WAX—												
100 vis., 3 color, 20-25 cold test	.06½	.06½	.06½	.06⅜	.06⅜	.06⅜	.06⅛	.06⅛	.06½	.06½	.06½	.06⅛
180 vis., 3 color, 23-28 cold test	.10	.10	.10	.10	.10	.10	.10	.10	.09½	.10	.09½	.09½
200 vis., 3 color, 23-28 cold test	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10½
180 vis., 5 color, 23-28 cold test	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09⅜	.09½	.09½
200 vis., 5 color, 23-28 cold test	.09⅛	.09⅛	.09⅛	.09⅛	.09⅛	.10½	.10½	.10½	.10¼	.10¼	.10½	.10½
240 vis., 5 color, 23-28 cold test	.13	.13	.13	.13	.13	.13	.13	.13	.12⅝	.13	.12½	.12½
200-210 "E" Bright Stock	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
600 steam refined, light green	.08	.08	.08	.08	.08	.08½	.08½	.08½	.08½	.08½	.07½	.07½
124-126 Wax, lb.	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04	.04¼	.04¼	.04	.04	.03⅞
Pennsylvania:												
600 Pennsylvania flash	.20½	.20½	.20½	.20½	.20⅜	.20⅜	.20⅜	.20⅜	.19½	.19½	.19½	.18
Pennsylvania Bright Stock	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.36	.35½
Gulf Coast:												
200 vis., 3 color, pale	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10½
200 vis., 5 color, pale	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.08½
California:												
200 vis., 2½-3 color	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.11	.11
200 vis., 4½-5 color, red	.09	.09	.09	.09½	.09	.09	.09	.09	.09	.09	.09½	.09½
NEW YORK DOMESTIC MARKET—												
58-60 437 U. S. Motor Gasoline	.13	.13	.13	.12	.12	.12¼	.12¼	.13	.13	.12	.11	.10½
41-43 water white Kerosene	.10½	.10½	.10½	.10	.09½	.08¾	.09	.09	.09	.08	.08	.07½
Gas Oil, 28 plus	.05¾	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼
*Diesel Oil, 28-30, bbl.	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
*Bunker Oil, 14-16, bbl.	1.75	1.75	1.75	1.76	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
28 pale Paraffin Oil	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.07½
250 red Paraffin Oil	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12
120-122 a.m.p. Wax, lb.	.05⅝	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½
Amber Petrolatum	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅝
NEW YORK (BAYONNE) EXPORT MARKET—												
58-60 437 U. S. Motor Gasoline, cases	.279	.279	.279	.279	.279	.279	.279	.279	.2665	.2565	.2565	.2465
Kerosene, standard white, cases	.1915	.1915	.1915	.1865	.1865	.1865	.1865	.1865	.1815	.1765	.1715	.1715
Kerosene, water white, cases	.2065	.2065	.2065	.2065	.2015	.2015	.2015	.2015	.2015	.1965	.1865	.1815
600 steam refined Cylinder Stock, bbls.	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
Light 135 Bright Stock	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.45
Dark 135 Bright Stock	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.43
LOS ANGELES EXPORT PRICES—												
Kerosene, water white	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05⅜	.05⅜
Gasoline, 53-55 437 endpoint	.08⅜	.08⅜	.08⅜	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08

*Lightgrage charge, 6.5 cents extra.

or .96 cent more than the U. S. Motor grade. In 1926 the average difference between the 60-62,400 and the 58-60,437 U. S. Motor was .91 cent and between the aviation and U. S. Motor grade was 1.45 cents. In 1925, the same comparison shows a difference of 1.21 cents in the case of the 60-62 gasoline and 2.55 cents in the case of the 64-66 grade.

This shows clearly that the price difference between the several gasoline grades is rapidly decreasing. At the present time in the Mid-Continent Field the price difference between the 60-62 and 58-60 grades does not exceed .25 cent and .5 cent in the case of the 64-66 375 and the 58-60 grade. This situation is primarily due to improvements in fractionating equipment which has made it possible for operators to manufacture the higher gravity low end-point gasolines without the cost differences which formerly prevailed. Low natural gasoline prices and relatively higher prices for kerosene and distillates have also been factors in bringing about this change in gasoline prices. Low crude prices also tend to equalize costs in the manufacture of the several grades of gasoline. So far as the Mid-Continent refining area is concerned there is the additional fact that the export demand for the higher gravity gasoline has been disappointing.

The Oklahoma gasoline situation just explained is representative of conditions in Kansas, North Louisiana, Arkansas and North and Central Texas, the other refining areas of the Mid-Continent. Practically the same situation obtained in the scattered refinery centers in the Middle West.

In Pennsylvania the average price on 58-60 gasoline the first half of this year was 9.86 cents. This compares with a 12.73-cent average for 1926 and a 13.48-cent average for 1925. The higher gravity grades experienced a still greater decline, although this drop was not as marked as it was in the Mid-Continent.

In the New York domestic market, the average price for 58-60 U. S. Motor gasoline at Bayonne, N. J., was 10.5 cents. The average in 1926 was 13.4 cents and in 1925, 14.65 cents. In the New York export market practically the same declines became effective. The average price the first six months of 1927 for 58-60 437 endpoint gasoline in cases was 25.61 cents. The average last year was 29.36 cents.

In California, the decline in the domestic gasoline market would not have been as great as it was east of the Rocky Mountains had it not been for the price war which was effective in the Los Angeles refining area for three weeks during the latter part of April and the early part of May. The 56-58 437 grade dropped to a low of 4½ cents during that period. This is said to be the lowest gasoline price than has ever been in effect on the West Coast since gasoline became the principal product secured from crude oil.

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TIONS ON REPRESENTATIVE REFINED PRODUCTS FOR EXPORT AND DOMESTIC MOVEMENT. INCLUDES AVERAGE PRICES 1926 AND 1925. PRICES GIVEN IN CENTS PER GALLON UNLESS OTHERWISE NOTED

April				May					June				First 6 Mos. 1927				1926					1925			
29	5	12	19	26	3	10	17	24	31	7	14	21	28	Av. Price	High	Low	Av. Pr. for Yr.	High	Low	Av. Price 1st. 6 Mo.	Av. Price 2nd. 6 Mo.	Av. Pr. for Yr.	High	Low	Av. Price 1st. 6 Mo.	Av. Price 2nd. 6 Mo.
.06¼	.06¼	.06	.06	.06	.06	.06	.06⅛	.06¼	.06½	.06⅝	.06¼	.06¼	.06¼	.0709	.09	.06	.0985	.1125	.085	.0982	.0988	.0977	.125	.0725	.1034	.0915
.06½	.06¼	.06	.06	.06	.06	.06	.06⅛	.06¼	.06¼	.06⅝	.06¼	.06¼	.06¼	.0699	.0875	.06	.0994	.1175	.0825	.1012	.0975	.1012	.13	.075	.1069	.0954
.06¼	.06¼	.06	.06	.06	.06	.06	.06⅛	.06¼	.06¼	.06⅝	.06¼	.06¼	.06¼	.0722	.09	.06¼	.1031	.12	.0875	.1053	.1009	.1055	.1375	.0775	.1107	.1002
.06½	.06½	.06¼	.06¼	.06¼	.06⅝	.06½	.06½	.06¼	.06⅜	.06⅝	.06⅝	.06⅝	.06⅝	.0781	.10	.0675	.1122	.1225	.16	.1159	.1085	.1176	.1475	.09	.1248	.1153
.07	.07	.06⅝	.06⅝	.06¾	.06⅝	.06¾	.06⅝	.06¾	.07	.07	.07	.07	.07	.0826	.1062	.07	.1176	.13	.105	.1229	.1124	.1310	.16	.11	.1371	.1253
.07¼	.07⅛	.07	.07	.07	.07	.07	.07	.07	.07⅛	.07¼	.07⅛	.07⅛	.07⅛	.0881	.1125	.075	.124	.135	.1125	.1301	.1179	.1384	.1625	.1125	.1416	.1352
.07¾	.07⅝	.07⅛	.07⅛	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.0751	.095	.065	.1068	.125	.09	.1088	.1048	.1075	.135	.08	.1139	.1028
.06¾	.06⅝	.06⅛	.06⅛	.06½	.06½	.06⅝	.06⅝	.06⅝	.06⅝	.07	.06⅝	.06⅝	.06⅝	.0720	.09	.0612	.1024	.1187	.0862	.1046	.1001	.1056	.135	.08	.1111	.1000
.06⅜	.06⅛	.06¼	.06¼	.06⅜	.06¼	.06¼	.06½	.06½	.06½	.06½	.06½	.06⅝	.06⅝	.0804	.1037	.0675	.1155	.13	.1012	.1215	.1095	.1289	.1526	.10	.135	.1227
.07	.07	.06⅝	.06⅝	.06¾	.06¾	.06¾	.07⅛	.06⅞	.07	.07	.07	.07	.07													
.06½	.06½	.06	.06¼	.06¼	.06½	.06½	.06½	.06¾	.06⅝	.06⅝	.06⅝	.06¾	.07	.0739	.09	.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.09½	.09½	.09½	.09	.08¼	.08¼	.08¼	.08¼	.08¼	.07¾	.07⅝	.07⅝	.07⅝	.07⅝	.0968	.115	.0775	.1175	.135	.1125	.1185	.1205	.1276	.145	.1075	.1323	.1217
.09	.09	.09	.08⅜	.08½	.08½	.08½	.08½	.08½	.08½	.09	.09	.08⅞	.08⅞	.0986	.115	.085	.1273	.145	.115	.1295	.1252	.1348	.1575	.1075	.139	.1271
.08⅜	.09	.09	.08⅜	.08½	.08½	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.1063	.125	.0925	.1339	.1475	.125	.1365	.1313	.1482	.1625	.12	.1465	.1499
.09¼	.09⅜	.09⅜	.09¼	.09¼	.09¼	.09¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.1147	.1325	.10	.1437	.1525	.1325	.146	.1413	.1584	.1725	.145	.1584	.1584
.10¼	.10¼	.10¼	.10	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼	.10¼													
.09	.07	.07	.06	.05½	.04½	.04½	.09	.09	.09	.09	.07½	.07½	.08	.0863	.105	.045	.1134	.125	.09	.1192	.1077	.1017	.11	.09	.1057	.0977
.05	.05	.04⅝	.04⅜	.04⅜	.04⅝	.05	.05⅝	.06⅛	.06	.05½	.05	.04¾	.04½	.0609	.095	.0462	.0945	.1062	.0825	.0963	.0927	.1202	.155	.09	.1154	.1246
.04½	.04½	.04¼	.04¼	.04¼	.04⅝	.05	.05⅝	.06⅜	.06	.05½	.05	.04½	.04⅝	.0580	.095	.0425	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.04¼	.04¼	.04¼	.04⅛	.04¼	.04¾	.04⅝	.05⅝	.06⅜	.06	.05½	.05	.04½	.04⅜	.0538	.085	.0412	.0887	.105	.0787	.089	.0885	.1158	.155	.08	.1102	.1215
.04	.04	.04	.04	.04⅜	.04¾	.04⅝	.05⅝	.06⅛	.06	.05½	.05	.04½	.04⅜	.0522	.085	.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.03⅜	.03⅞	.04	.04	.03⅞	.04	.04	.04⅝	.05½	.05¼	.05	.05	.04½	.04⅜	.0500	.0825	.035	.086	.1025	.075	.0859	.0861	.112	.155	.0775	.1057	.1182
.05	.05	.04⅜	.04⅜	.04½	.04⅝	.05	.05⅝	.06⅛	.05⅜	.05½	.05	.04⅜	.04½	.0608	.0962	.045	.0959	.1075	.0825	.099	.0927	.1199	.1575	.1875	.1149	.1248
.04½	.04⅛	.04⅛	.04⅛	.04¼	.04¼	.04⅜	.05	.05½	.05¼	.05	.04⅝	.04½	.04¼	.0537	.085	.0412	.0926	.105	.0787	.0963	.0888	.1158	.1575	.185	.1094	.1219
.04	.04	.04	.04	.04	.04	.04¼	.04⅝	.05½	.05¼	.05	.04⅜	.04½	.04¼	.0501	.0837	.0375	.0866	.1025	.075	.0865	.0867	.1186	.1575	.0775	.1057	.1121
.09	.09	.07	.06½	.06½	.06½	.10	.10	.09	.09	.09	.09	.09	.09	.1022	.125	.065	.1465	.1r	.11	.156	.135	.1281	.15	.11	.128	.1278
.04¾	.04½	.04¼	.04¼	.04¼	.04¼	.04⅜	.04½	.04⅜	.04⅜	.04¼	.04⅛	.04	.04	.0496	.0612	.04	.0727	.105	.0525	.0729	.0725	.0445	.0512	.0387	.0428	.0463
.05	.05	.04⅝	.04⅝	.04½	.04⅜	.04⅝	.04⅝	.04⅝	.04⅜	.04⅛	.04⅛	.04	.04⅜	.0541	.0675	.0437	.0769	.1075	.0562	.0761	.0776	.0479	.055	.0425	.0457	.0502
.05	.04⅜	.04½	.04½	.04½	.04⅝	.04⅜	.04⅜	.04⅜	.04⅜	.04⅛	.04⅛	.04	.04⅜	.0532	.065	.0437	.077	.1075	.0575	.0764	.0776	.0467	.055	.0425	.0461	.047
.04½	.04⅜	.04¼	.04¼	.03⅞	.03⅞	.04¼	.04½	.04¼	.04⅜	.04¼	.04	.03⅞	.03⅞	.0486	.0612	.0387	.0728	.1025	.0525	.0733	.0724	.0445	.0537	.0387	.0428	.0462
.06½	.06⅜	.06⅜	.06½	.06½	.06⅜	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.0692	.0825	.0625	.0885	.12	.0725	.0886	.1895	.1656	.075	.06	.0679	.0634
.06⅝	.07⅛	.06⅞	.06⅝	.06⅜	.06⅜	.06½	.06⅜	.06⅜	.06⅝	.06⅝	.06⅝	.06⅝	.06¼	.0712	.085	.0625	.0921	.125	.0737	.093	.0912	.0681	.0775	.0625	.0693	.0671
.07	.07	.07	.05⅝	.05⅝	.04⅜	.04⅜	.05⅜	.05⅝	.05⅝	.05⅝	.05⅝	.05¾	.05¾	.0634	.07	.0575	.0745	.09	.07	.0759	.0731	.075	.075	.075	.075	.075
.07	.07	.05⅝	.05⅛	.04¼	.04¼	.07	.07	.07	.07	.07	.07	.07	.07	.0697	.0775	.0425	.0919	.11	.0775	.0960	.0879	.0774	.085	.065	.08	.0746
.06⅝	.06⅝	.04¼	.04¼	.04	.04	.06⅜	.06⅜	.06⅜	.06⅝	.06⅝	.06⅝	.06⅝	.06⅝	.0655	.0725	.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1.07½	1.05	.92½	.90	.90	.90	.85	.85	.85	.85	.85	.85	.85	.85	1.0182	1.225	.85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1.17½	1.12½	1.02½	.97½	.97½	.95	.95	.92½	.92½	.92½	.90	.90	.90	.90	1.0990	1.275	.90	1.3072	1.49½	1.20	1.2865	1.3279	1.0908	1.30	.85	1.0913	1.0904
.03⅜	.02⅝	.02⅝	.02½	.02½	.02⅝	.02⅜	.02⅜	.02⅜	.02¾	.02⅜	.02⅝	.02⅝	.02⅝	.0341	.045	.025	.0419	.045	.035	.0395	.0427	.0327	.0375	.0275	.0325	.0326
.03⅜	.03¼	.03¼	.03¼	.03¼	.03⅛	.03⅛	.03⅛	.03⅛	.03¼	.03⅛	.03⅛	.03⅛	.03⅛	.0391	.0525	.0312	.0473	.055	.0375	.0426	.052	.0368	.04	.03	.0349	.0385
1.37½	1.30	1.25	1.10	1.05	1.05	1.02½	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.2211	1.45	1.00	1.3919	1.60	1.25	1.3587	1.425	1.1812	1.50	.90	1.1519	1.1702
1.30	1.20	1.15	1.05	.90	.90	.85	.85	.85	.87½	.85	.85	.87½	.87½	1.1952	1.55	.85	1.3804	1.55	1.20	1.3375	1.4433	1.1765	1.55	.90	1.1471	1.1711
.03⅛	.02⅜	.02⅝	.02½	.02½	.02½	.02⅝	.02⅜	.02⅜	.02⅝	.02⅝	.02½	.02⅝	.02⅝	.0333	.0437	.025	.0401	.045	.035	.0384	.0418	.0328	.04	.0275	.0328	.0328
.03½	.03¼	.02⅞	.02⅝	.02⅝	.02⅝	.03⅛	.03⅛	.03⅛	.03	.03	.03	.03	.03	.0375	.05	.0275	.0457	.055	.0375	.0406	.0509	.0349	.0412	.0312	.0354	.0363
1.20	1.15	1.15	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.1798	1.30	1.10	1.2346	1.35	1.10	1.199	1.2702	1.0789	1.40	.90	1.1288	1.0288
1.60	1.60	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.6115	1.75	1.50	1.7059	1.75	1.50	1.6617	1.75	1.5872	1.70	1.45	1.6021	1.5723
.05⅛	.04⅜	.04⅜	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.0487	.055	.0425	.0532	.0562	.0475	.0511	.0554	.0477	.0525	.045	.0479	.0475
.05⅞	.05⅞	.05⅝	.05⅛	.05⅞	.05⅞	.05	.05	.04⅜	.04¼	.04¼	.04¼	.04¼	.04¼	.0547	.0612	.0425	.0591	.065	.055	.0587	.0595	.053	.0625	.0425	.0534	.0529
.06⅛	.06	.05⅞	.05⅝	.05⅝	.05	.05	.05	.05	.04⅝	.04⅜	.04⅜	.04⅜	.04¼	.0566	.065	.0425	.0636	.07	.0625	.0636	.064	.0593	.07	.0525	.0616	.057
.03½	.03⅛	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.0338	.035	.0325	.0385	.045	.035	.0406	.0364	.0402	.045	.0375	.0405	.04
.92½	.92½	.92½	.92½	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.8961	.925	.85	.9813	1.00	.925	1.00	.9625	1.4068	1.60	1.00	1.5344	1.2154
1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.06½	.06½	.06½	.06¼	.06⅛	.06¼	.06¼	.06¾	.06¼	.06¼	.06¼	.06¼	.06¼	.06¼	.0642	.0675	.0625	.0637	.065	.0475	.0625	.065	.0617	.08	.04	.07	.0534
.09½	.09½	.09½	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.0988	.10	.096	.101	.10½	.0925	.1008	.105	.1031	.11	.085	.1038	.1024
.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.1061	.1075	.105	.1072	.11¾	.10¼	.1108	.1075	.1139	.12	.10	.1154	.1124
.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.0960	.0975	.095	.0968	.0975	.0875	.096	.0925	.1015	.105	.075	.0991	.1049
.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.1025	.105	.0925	.1068	.1075	.0975	.106	.1075	.1085	.115	.09	.1096	.1074
.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.1268	.13	.125	.1304	.135	.125	.1308	.13	.1414	.15	.12	.1435	.1396
.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.31	.31	.31	.3067	.33	.30	.3034	.31	.3052	.31	.29	.3058	.3046
.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.12½	.0775	.08	.07	.0806	.085	.08	.0813	.08	.0793	.10	.065	.0838	.0746
.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.0234	.0425	.025	.0471	.05	.0412	.0482	.046	.0516	.055	.05	.0509	.0524
.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.1873	.2075	.175	.2419	.27	.205	.2667	.2248	.2852	.395	.245	.3262	.2442
.03	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.02½	.02½	.02⅝	.02⅝	.02⅝	.3502	.37	.37	.3954	.415	.37	.3885	.4023	.3824	.41	.365	.3887	.389
.18	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.17½	.1071	.11	.105	.1135	.125	.11	.1146	.1123	.1318	.15	.115	.1412	.1225
.35½	.34½	.34½	.34½	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33	.0871	.09	.085	.0971	.11	.095	.0981	.0962	.1165	.135	.10	.1262	.1069
.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.10½	.1081	.11	.105	.1298	.135	.105	.135	.1246	.1523	.155	.135	.1513	.1534
.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.0933	.095	.09	.1148	.12	.09	.12	.1096	.1373	.14	.12	.1362	.1385
.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.1050	.13	.0875	.134	.15	.12	.1377	.1304	.1465	.18	.12	.1549	.1384
.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.0822	.105	.07	.0948	.11	.07	.0864	.1032	.....	.....	.....	.....	.....
.10½	.09½	.09	.09	.08¾	.08¾	.08¾	.09	.09	.08¾	.09	.09	.09	.07	.0596	.0625	.055	.0636	.0675	.055	.0612	.066	.....	.....	.....	.....	.....
.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.06½	2.3462	2.40	2.20	2.4056	2.50	2.10	2.3188	2.4923	2.275	2.70	2.10	2.4135	2.1386
.06	.06	.06	.06	.06	.05¾	.05¾	.05¾	.05¾	.05¾	.05½	.05½	.05½	.05½	1.7308	1.75	1.65	1.74	1.75	1.65	1.75	1.75	1.725	1.80	1.65	1.7826	1.669
2.40	2.40	2.40	2.40	2.40	2.30	2.30	2.30	2.30	2.20	2.20	2.20	2.20	2.20	.0763	.08	.0725	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.65	1.65	1.65	1.65	1.65	.1213	.125	.1125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07⅛	.0467	.0562	.0387	.0586	.0612	.0575	.0586	.0586	.0612	.0625	.0587	.0614	.0611
.12	.12	.12	.12	.12	.12	.12	.11⅞	.11⅞	.11⅞	.11⅞	.11⅞	.11⅞	.11⅞	.0334	.0337	.0325	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.04¼	.04	.04¼	.04¼	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞	.03⅞													
.03⅜	.03⅜	.03⅜	.03⅜	.03⅜	.03⅜	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼													
.2465	.2715	.2465	.2715	.2465	.2715	.2465	.2715	.2465	.2715	.2465	.2715	.2465	.2715													
.1765	.1815	.1765	.1815	.1765	.1815	.1765	.1815	.1765	.1815	.1765	.1815	.1765	.1815													
.20	.45	.20	.45	.20	.45	.20	.45	.20	.45	.20	.45	.20	.45													
.19	.43	.19	.43	.19	.43	.19	.43	.19	.43	.19	.43	.19	.43													
2.44	2.44	2.44	2.44	2.39	2.39	2.39	2.39	2.39	2.44	2.49	2.49	2.44	2.44	.2561	.279	.239	.2933	.294	.2715	.2936	.293	.2881	.3065	.2665	.294	.2819
.1715	.1665	.1665	.1765	.1615	.1715	.1615	.1715	.1615	.1715	.1715	.1715	.1615	.1715	.1734	.1915	.1615	.189	.1965	.179	.1855	.1925	.1674	.179	.164	.1338	.1671
.1815	.1765	.1765	.1765	.1715	.1715	.1715	.1715	.1715	.1715	.1715	.1715	.1715	.1715	.1855	.2065	.1715	.2011	.2115	.194	.1952	.2071	.1779	.194	.1704	.1778	.1776
.19	.19	.19	.19	.19	.19	.18	.18	.18	.18	.18	.18	.17	.17	.1908	.20	.17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.45	.44	.44	.44	.44	.44	.42	.42	.42	.42	.42	.42	.41	.41	.4423	.46	.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.43	.42	.42	.42	.42	.42	.40	.40	.40	.40	.40	.40	.39	.39	.4223	.44	.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.05⅜	.05⅜	.04⅜	.04⅜	.04	.04	.04	.04⅛	.04⅛	.04¼	.04⅛	.04⅛	.04⅛	.04⅛	.0488	.0575	.04	.0535	.055	.05	.0523	.0546	.0518	.055	.05	.0521	.0515
.07⅜	.07⅜	.07	.06¾	.06	.06	.06	.06⅛	.06⅛	.06⅛	.06⅛	.05⅞	.05⅞	.05⅞	.0735	.0875	.055	.096	.11	.08	.0967	.0953	.075	.1075	.07	.1014	.0885

Gasoline Tankwagon Slumps Rapidly

Changes in 50 Representative Cities for Half Year Show Effect of Overproduction in Retail Market

By W. T. Ziegenhain

The average gasoline tank wagon price, free of taxes over the first six months of 1927 in the 50 representative cities as compiled by The Oil and Gas Journal amounts to 16.157 cents and is the lowest average for any first six months period in the last four years, as shown in Table 1. In previous years the general tendency was to hold or increase the tank wagon prices with the approach of the high consuming season, but this year there has been a consistent decline since January 1 and the decline actually started in August of last year. During the last 12 months the average price has been decreased from 19.697 cents to 14.856 cents, or 4.841 cents. Based on the present daily average consumption, the loss of revenue to the oil industry amounts to $1,800,000 and at the average rate of consumption over the year amounts to $1,645,000 daily.

Assuming the first six month's average price of 16.157 cents is indicative of the average for the year, the total gross revenue for 1927 will be $10,000,000 less than in 1926, even though a billion and a half gallons or 13 per cent more gasoline will be consumed this year compared to 1926. If the loss in revenue from other petroleum products were added to this, the total would be substantially higher.

With the general price trend downward over the last six months, the prices in 40 of the 50 cities listed show lows on July 1 for this year to date. Analyzing the price changes during this period with respect to the various marketing areas in the United States, it is apparent that the entire central portion of the country extending from the north to the south boundaries has witnessed the greatest reduction. The decrease has amounted to from 3 to 5 cents. In contrast to this situation, the West Coast prices have remained practically the same except for a big decrease during a very short price war in southern California. In six western cities listed, the tank wagon prices were as high or higher on July 1 than they were on January 1.

Prices in the East are from 1 to 3 cents lower now compared to six months ago, but there is a greater difference in the price differentials among the eastern cities than in other sections. As an example, Philadelphia shows a decrease in the tank wagon price from 18 to 12 cents and was effected by 7 price changes.

TABLE NO. 1

Average tank wagon prices in cents in 50 representative cities for the past three and one-half years follow:

	1924	1925	1926	1927
Jan. 1	14.32	13.918	16.133	17.567
Feb. 1	17.68	16.74	16.213	17.469
Mar. 1	18.87	19.06	17.267	17.007
Apr. 1	18.85	18.68	18.517	16.160
May 1	18.85	18.352	18.487	15.320
June 1	18.61	19.122	19.607	14.720
July 1	17.66	19.387	19.697	14.856
Aug. 1	16.5	19.413	19.697	
Sept. 1	15.75	16.703	19.581	
Oct. 1	13.95	15.808	19.167	
Nov. 1	13.75	15.528	18.187	
Dec. 1	13.87	15.763	17.607	
Average	16.555	17.372	18.347	16.157

TABLE NO. 2

Following are the daily average tank wagon prices at Chicago for the past 14 years:

1913	14.84c
1914	12.07c
1915	11.04c
1916	17.16c
1917	20.03c
1918	22.27c
1919	22.15c
1920	25.45c
1921	20.28c
1922	20.23c
1923	17.05c
1924	17.68c
1925	16.27c
1926	17.03c
1927 (first six months)	15.42c

This represented more price changes than any other city listed.

Abnormally low prices existed for short periods at many points throughout the entire country, but in view of the highly competitive markets there were relatively few price wars.

Gasoline Taxes

To partially equalize the lower tank wagon prices the gasoline taxes were increased in 13 states. Included in this total, New Jersey adopted a 2-cent tax. With Illinois placing a 2-cent tax in effect August 1, only Massachusetts and New York are without any form of gasoline tax. The states in which the gasoline taxes were increased the first half of the year, amounts and effective dates follow:

Alabama increased from 2 to 4 cents on January 5.

Arkansas increased from 4 to 5 cents on June 7.

Colorado increased from 2 to 3 cents on May 1.

Delaware increased from 2 to 3 cents on April 10.

Florida increased from 4 to 5 cents on July 1.

Idaho increased from 3 to 4 cents on March 1.

Maryland increased from 2 to 4 cents on April 1.

New Jersey increased from 0 to 2 cents on July 1.

New Mexico increased from 3 to 5 cents on March 7.

Ohio increased from 2 to 3 cents on May 25.

South Dakota increased from 3 to 4 cents on July 1.

Texas increased from 1 to 3 cents on March 16.

West Virginia increased from 3½ to 4 cents on July 1.

Wyoming increased from 2½ to 3 cents on March 1.

These changes increased the average tax in the 50 cities from 2.47 cents on January 1 to 2.83 cents on July 1. This will increase the state revenues more than $30,000,000 annually. Of the states increasing their taxes, Texas will show the greatest increase in revenue because of the high gallonage and a 2-cent increase. This will add approximately $8,000,000 to the stae gasoline tax revenue. Ohio will increase its revenue about $6,000,000, New Jersey about $5,000,000, Alabama $2,500,000, Florida $1,800,000, Maryland $1,500,000 and Colorado $1,000,000.

Although taxes have been increased, the money is being spent on the improvement of roads and is indirectly benefiting the oil industry from the standpoint of sales. Until the taxes become too great a burden, the increased sales due to improved roads will offset the tendency to limit the use of the automobile because of a high fuel cost. What amount may be considered a fair tax both with respect to the road building program and the oil companies .s a matter of personal opinion. The optimum tax will vary between states or groups of states because of the difference in the conditions of the present roads, the economic conditions in the state and the extent of other tax burdens.

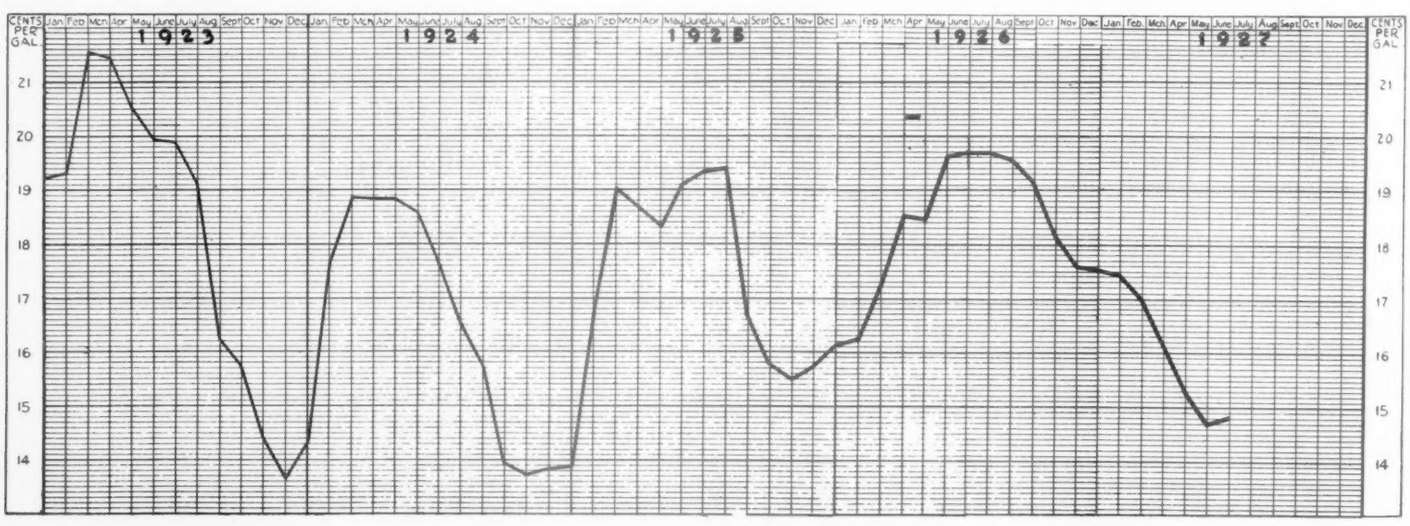
Five-Cent Tax

Five of the 46 states have adopted a 5-cent tax. These five states include Arkansas, Florida, Kentucky, New Mexico and South Carolina. The average filling station price in the five cities in these states as listed in the summary of the 50 cities is 22.2 cents and includes the tax of 5 cents, or nearly one-fourth of the money spent for gasoline is paid to the states as tax. Fifteen states have a 2-cent tax, and 14 have a 3-cent tax.

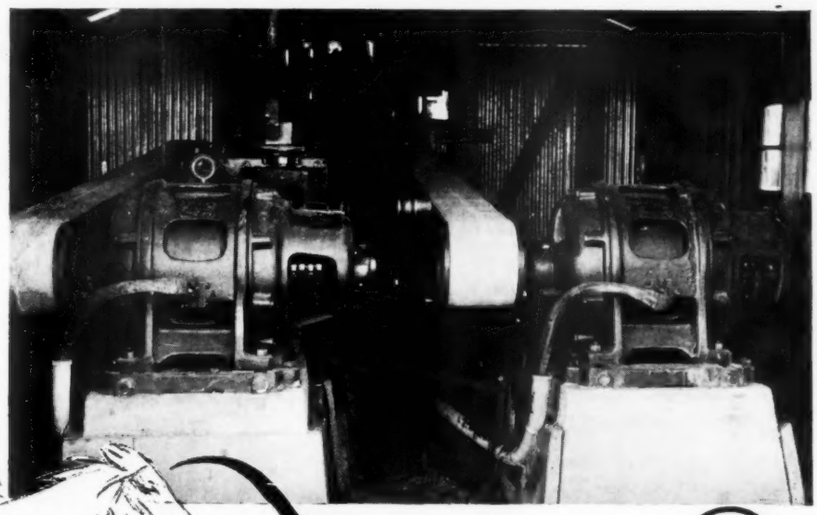
Cause of Decline

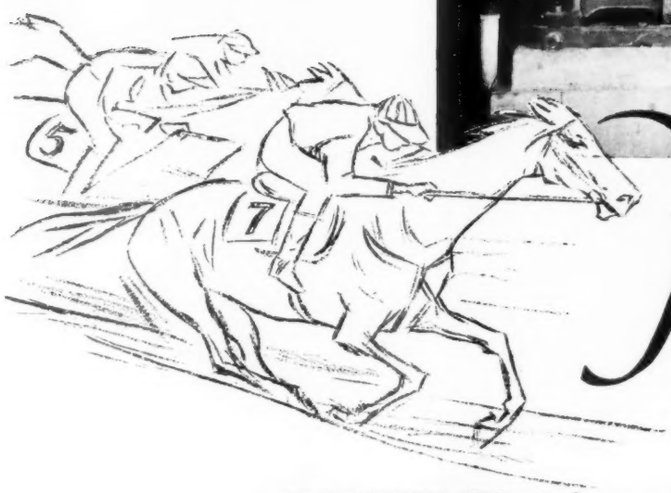
Along with the improvement of roads and the lower priced automobiles, other factors contributed to the belief early in the year that 1927 would be the banner year for stable tank wagon prices, but as the crude oil market weakened with the overproduction of oil the general refinery and tank wagon price structure declined in proportion. The overproduction was principally due to the development of the Seminole Field and the nature of the crude produced caused the gasoline market to slump more than ordinarily. This can be explained by the fact that refiners make from 42 to 44 per cent gasoline direct from the crude and when cracking at a normal rate will recover about 60 per cent of it as gasoline. To emphasize the importance of the Seminole Field in effecting the tank wagon prices by increasing the gasoline production one only needs to remember that the equivalent of 30 per cent of the average domestic consumption is now being produced in that field.

The overproduction was followed by keen marketing competition in most areas and all companies were out after gallonage. This was accomplished in various ways and included the offering of some very attractive margins to jobbers, additional stations, offering discounts on quantity dumps and a slashing of prices in a few localities. Although the jobbers' margin per gallon at first looked attractive, the revenue and profits were not in proportion because of the greater number of filling stations in his territory and this placed a premium on sales in large volume which led to the practice



Average gasoline tank wagon price in 50 cities.





first to finish

SOMETIMES it happens that a dark horse wins—but for consistent performance it is safer to depend upon the thoroughbred, pedigreed entry.

It is the same in the drilling game—power equipment developed with every consideration for conditions and requirements of oil fields has the best chance of reaching the pay sand first.

Westinghouse Twin Motor drilling equipment was developed just that way. It wins on its merits. Its pedigree goes back to the very fundamentals of sound, balanced design. From that point its development has been directed to meet and master the strenuous work of fast drilling, and consistently dependable drilling.

Remember, also, this equipment has unquestionably established the economical advantages of the electric drive over other forms of power in oil fields. Perfect motion is assured at all depths of the hole. Starting, stopping, reversing and close speed adjustment can be instantly controlled from the derrick floor. Installation is so simple that the services of an electrician are not required.

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of even giving a station discount in some places.

On January 19 the Standard Oil Co. of Indiana modified their schedule of quantity discounts so as to allow a 1-cent discount on each gallon purchased in dumps of 50 gallons. Prior to this the lowest discount offered was for dumps of 750 gallons per month and amounted to one-half cent per gallon. On February 28 the Standard of Indiana increased their discount range by offering a 3-cent discount on dumps of 15,000 gallons. At the same time a discount of 1 cent per gallon was offered on 50-gallon dumps of kerosene. Of the 50 cities listed, Huron, S. Dak., shows the greatest difference between the high and low for the six months period, the high being 19.5 cents on January 1 and the low 11.5 cents set on April 23. Other points showing a wide difference between the high and low are Duluth, Minn., Kansas City, Mo., Philadelphia, Pa., and Fargo, N. Dak.

TABLE SHOWING GASOLINE TANK WAGON PRICES IN EFFECT JANUARY 1, 1927, EXCLUSIVE OF TAXES, IN 50 REPRESENTATIVE CITIES, WITH AMOUNT AND DATE OF CHANGES DURING THE FIRST SIX MONTHS OF 1927. ALSO THE HIGH AND LOW PRICES OF 1923, 1924, 1925, 1926, AND THE FIRST SIX MONTHS OF 1927, WITH GASOLINE TAXES IN EFFECT JANUARY 1, 1924, 1925, 1926, 1927, AND JULY 1, 1927.

	Prices Jan. 1, 1927	Changes during first six months 1927							Prices July 1, 1927	High and low prices										Taxes				
										First six months 1927		1926		1925		1924		1923		Jan. 1, 1924	Jan. 1, 1925	Jan. 1, 1926	Jan. 1, 1927	July 1, 1927
Birmingham, Ala.	16.0	1/13 18.0 3/19	3/8 17.0 5/4	4/11 16.0 7/1	5/14 14.0	..	..	..	14.0	18.0	14.0	20.0	16.0	20.0	13.0	20.0	13.0	20.0	14.0	2.0	2.0	2.0	2.0	4.0
Phoenix, Ariz.	19.0	16.0 2/25	18.0 3/14	19.0	....	....	..	....	19.0	19.0	16.0	22.0	19.0	20.0	18.0	20.0	16.0	22.5	17.5	3.0	3.0	3.0	3.0	3.0
Little Rock, Ark.	15.0	14.0 3/19	13.0 4/16	.... 5/4	.. 7/1	....	....	..	13.0	15.0	13.0	18.0	14.0	19.0	12.0	18.0	13.0	20.5	12.5	4.0	4.0	4.0	4.0	5.0
San Francisco, Calif.	14.0	11.0 3/2	9.0 3/23	13.0 5/1	14.0 5/15	.... 6/8	....	....	14.0	14.0	9.0	16.0	13.0	15.0	13.0	15.0	11.0	19.0	12.0	2.0	2.0	2.0	2.0	2.0
Denver, Colo.	18.0	17.0 1/31	15.0 2/12	14.0 2/28	15.0 4/15	16.0 4/20	....	....	16.0	18.0	14.0	20.0	16.0	20.0	12.0	19.0	12.0	20.0	11.0	2.0	2.0	2.0	2.0	3.0
Hartford, Conn.	19.0	21.0 1/31	22.0 2/28	21.0 4/5	20.0 4/20	19.0	....	..	19.0	22.0	19.0	21.0	17.0	21.0	15.0	20.0	13.0	24.5	15.5	1.0	1.0	2.0	2.0	2.0
Dover, Del.	18.0	19.0 1/13	18.0 2/7	17.0 2/15	16.0 3/11	.... 4/11	.. 5/14	....	16.0	19.0	16.0	20.0	17.0	21.0	15.0	20.0	14.0	23.0	14.0	1.0	2.0	2.0	2.0	3.0
‡Jacksonville, Fla.	12.0	14.0 1/13	16.0 2/7	14.0 2/15	15.0 3/11	14.0 4/11	13.0 5/3	....	13.0	16.0	12.0	19.0	12.0	19.0	12.0	19.0	12.0	20.0	13.0	3.0	3.0	4.0	4.0	5.0
‡Atlanta, Ga.	14.0	16.0 2/26	18.0 3/23	16.0	17.0	16.0	14.0	....	14.0	18.0	14.0	21.0	14.0	21.0	14.0	19.0	11.0	22.0	13.0	3.0	3.0	3.5	3.5	3.5
Boise, Idaho	22.5	21.5 1/12	19.5 1/19	.... 3/1	.... 5/10	....	....	....	19.5	22.5	19.5	24.0	20.0	21.5	19.5	22.5	18.0	24.0	18.0	2.0	2.0	3.0	3.0	4.0
Peoria, Ill.	18.2	17.2 1/12	16.2 3/1	15.2 5/10	13.2	..	..	....	13.2	18.2	13.2	19.2	10.5	19.2	10.5	18.2	13.0	20.8	12.2	...	...	...	...	...
§Chicago, Ill.	17.0	16.0 1/12	15.0 1/19	14.0 3/1	.... 5/10	....	..	....	14.0	17.0	17.0	18.0	15.0	18.0	13.0	18.0	13.0	20.0	12.0	...	...	...	...	...
Indianapolis, Ind.	18.2	17.2 1/19	16.2 2/7	15.2	13.2	....	..	..	13.2	18.2	13.2	19.2	16.2	19.2	13.2	18.2	13.2	20.8	12.2	2.0	2.0	3.0	3.0	3.0
Des Moines, Iowa	16.0	15.0 1/12	13.0 3/1	.... 5/10	....	..	....	....	13.0	16.0	13.0	19.5	16.0	19.5	13.5	18.5	13.5	21.1	12.5	...	...	2.0	2.0	2.0
§Wichita, Kans.	15.8	14.8 3/14	13.8 4/15	11.8	....	..	..	....	11.8	15.8	11.8	16.8	14.8	18.8	8.8	17.8	12.8	20.4	11.8	...	...	2.0	2.0	2.0
Louisville, Ky.	17.0	15.0 2/25	14.0 3/14	.... 3/26	.... 5/19	....	....	..	14.0	17.0	14.0	20.0	17.0	19.0	12.0	19.0	12.0	21.0	13.0	1.0	3.0	3.0	5.0	5.0
New Orleans, La.	14.5	13.5 2/10	12.5 2/28	14.5 3/15	12.5 4/11	....	....	....	12.5	14.5	12.5	17.5	13.5	18.5	11.5	16.5	11.5	19.5	10.5	1.0	2.0	*3.0	*3.0	*3.0
Augusta, Me.	21.0	22.0 2/9	21.0 2/25	20.0 3/14	19.0 4/6	....	....	....	19.0	22.0	19.0	21.0	17.0	22.0	15.0	19.0	13.0	24.5	15.5	1.0	1.0	3.0	3.0	3.0
Baltimore, Md.	18.0	19.0 1/31	18.0 2/12	17.0 2/28	16.0 4/5	.... 4/20	.. 5/15	....	16.0	19.0	16.0	19.0	15.0	19.0	13.0	19.0	13.0	22.5	15.0	2.0	2.0	2.0	2.0	4.0
Springfield, Mass.	19.0	21.0 1/12	22.0 1/19	21.0 3/1	20.0 5/10	19.0	17.0	....	17.0	22.0	17.0	21.0	17.0	21.0	15.0	20.0	13.0	24.5	14.5	...	...	...	...	...
Detroit, Mich.	18.8	17.8 1/12	16.8 1/19	15.8 3/1	13.8 4/27	.... 5/10	.... 6/10	....	13.8	18.8	13.8	19.8	16.8	19.8	13.8	18.8	13.8	21.8	13.2	...	...	2.0	2.0	2.0
Duluth, Minn.	19.5	18.5 3/19	17.5 5/14	16.5	15.5	14.5	12.5	....	12.5	19.5	12.5	20.5	15.5	20.5	13.5	19.2	14.5	21.5	12.9	...	...	2.0	2.0	2.0
Natchez, Miss.	15.5	14.5 1/12	12.5 1/19	.... 1/30	.... 5/10	.... 6/10	....	....	12.5	15.5	12.5	18.5	15.5	18.5	11.5	18.5	11.5	20.0	12.5	1 0	3.0	3.0	4.0	4.0
Kansas City, Mo.	17.9	16.9 3/2	15.9 3/23	14.0	12.9	10.9	..	....	10.9	17.9	10.9	18.9	15.9	18.9	12.9	17.9	11.9	19.5	10.9	1.0	*3.0	*3.0	*3.0	*3.0
Helena, Mont.	22.0	21.0 3/12	19.5 5/31	....	....	....	....	....	19.5	22.0	19.5	24.0	21.0	24.0	18.0	23.0	18.0	23.5	18.0	2.0	2.0	2.0	3.0	3.0
Omaha, Neb.	14.25	13.25 3/19	12.25 5/4	.... 7/1	....	....	..	....	12.25	14.25	12.25	19.25	14.25	19.25	10.0	18.25	11.0	20.5	12.25	...	...	2.0	2.0	2.0
Reno, Nev.	18.0	15.0 1/29	17.0 2/25	18.0 3/14	.... 4/6	.... 7/1	....	....	18.0	18.0	15.0	19.5	16.5	18.5	16.5	18.5	14.5	22.5	15.5	2.0	2.0	4.0	4.0	4.0
Newark, N. J.	18.0	19.0 2/8	18.0 3/7	17.0 3/23	16.0 4/23	18.0	....	....	18.0	18.0	16.0	19.0	15.0	19.0	13.5	19.5	13.5	23.5	15.5	...	...	...	...	3.0
Albuquerque, N. Mex.	20.0	19.0 2/10	18.0 2/28	17.0 3/15	16.0 4/11	....	....	....	16.0	20.0	16.0	26.5	20.0	23.5	19.5	23.0	18.0	25.5	17.0	1.0	1.0	3.0	3.0	5.0
New York, N. Y.	21.0	22.0 2/25	21.0 3/14	20.0 4/6	19.0	....	....	....	19.0	22.0	19.0	21.0	17.0	22.0	15.0	20.0	14.0	24.5	15.5	...	...	...	...	...
Charlotte, N. C.	19.0	18.0 1/12	17.0 1/19	16.0 3/1	.... 5/10	.... 5/17	....	....	16.0	19.0	16.0	19.5	15.0	20.0	12.0	19.0	12.0	21.5	15.0	3.0	3.0	4.0	4.0	4.0
Fargo, N. D.	20.9	19.9 3/21	18.9 4/20	17.9	15.9	14.0	....	....	14.0	20.9	14.0	21.9	18.9	20.9	14.9	19.6	14.9	24.3	13.6	1.0	1.0	1.0	2.0	2.0
Cleveland, Ohio	19.0	18.0 2/16	16.0 2/5	.... 5/16	....	....	....	....	16.0	19.0	15.0	20.0	16.0	18.5	15.0	20.0	15.0	21.0	16.0	...	...	2.0	2.0	3.0
Tulsa, Okla.	15.0	14.0 3/19	13.0 5/4	11.0 7/1	....	....	....	....	11.0	15.0	11.0	17.0	13.0	18.0	9.5	18.0	9.5	20.0	8.0	1.0	2.5	3.0	3.0	3.0
Portland, Ore.	14.0	11.0 1/31	13.5 2/28	14.5 3/13	.... 4/5	.... 4/20	.... 5/15	.... 6/15	14.5	14.5	11.0	16.0	13.0	15.0	13.0	16.0	12.0	20.0	13.0	3.0	3.0	3.0	3.0	3.0
Philadelphia, Pa.	18.0	19.0 1/31	18.0 2/12	17.0 2/29	16.0 4/5	15.0 4/20	14.0 5/15	12.0	12.0	19.0	12.0	20.0	17.0	21.0	15.0	20.0	14.0	23.0	14.0	†2.0	†2.0	†2.0	†2.0	†2.0
Providence, R. I.	19.0	21.0 2/25	22.0 3/14	21.0 4/6	20.0	19.0	17.0	...	17.0	22.0	17.0	21.0	17.0	22.0	15.0	20.0	13.0	24.5	15.5	...	...	1.0	1.0	1.0
Charleston, S. C.	19.0	18.0 1/12	17.0 1/19	15.0 3/1	.... 4/13	.... 4/23	....	....	15.0	19.0	15.0	19.5	15.0	20.5	12.5	19.0	12.5	22.0	15.0	3.0	3.0	5.0	5.0	5.0
Huron, S. D.	19.5	18.5 2/25	17.5 5/19	16.5 6/27	15.0	11.5	....	....	11.5	19.5	11.5	20.5	14.0	20.0	13.0	20.0	15.0	22.6	14.0	2.0	2.0	3.0	3.0	4.0
Memphis, Tenn.	15.0	14.0 3/3	10.0 4/5	12.0 4/15	.... 6/9	....	....	..	12.0	15.0	10.0	18.5	13.5	18.0	10.5	18.0	12.0	20.0	12.0	2.0	2.0	3.0	3.0	3.0
Dallas, Tex.	13.0	12.0 2/26	11.0 3/23	10.0	12.0	....	....	..	12.0	13.0	10.0	17.0	13.0	18.0	10.0	17.0	9.0	19.0	6.0	1.0	1.0	1.0	1.0	3.0
Salt Lake City, Utah	20.5	19.5 2/10	17.5 2/28	.... 3/15	.... 4/11	....	....	....	17.5	20.5	17.5	22.5	18.5	21.5	17.5	21.5	16.5	23.0	15.5	2.5	2.5	3.5	3.5	3.5
Burlington, Vt.	20.0	22.0 3/14	21.0 4/6	20.0	19.0	....	....	....	19.0	22.0	19.0	21.0	18.0	22.0	15.0	19.0	13.0	24.5	15.5	1.0	1.0	2.0	2.0	2.0
Norfolk, Va.	18.0	17.0 2/9	16.0 2/25	.... 3/14	.... 4/6	....	....	....	16.0	18.0	16.0	19.0	15.0	20.0	14.5	19.0	14.5	21.5	15.0	3.0	3.0	3.0	4.5	4.5
Washington, D. C.	18.0	19.0 3/14	18.0 4/6	17.0	16.0	....	..	....	16.0	19.0	16.0	19.0	15.0	19.0	14.0	19.0	14.0	23.0	15.0	...	2.0	2.0	2.0	2.0
Charleston, W. Va.	18.0	17.0 1/12	16.0 1/19	.... 3/1	.... 5/10	....	..	....	16.0	18.0	16.0	19.0	15.0	19.0	14.0	19.0	14.0	23.0	15.0	2.0	2.0	3.5	3.5	4.0
Milwaukee, Wis.	18.1	17.1 3/2	16.1 3/23	15.1	13.1	....	....	....	13.1	18.1	13.1	19.1	16.1	19.1	13.1	18.1	13.1	19.6	12.0	...	...	2.0	2.0	2.0
Casper, Wyo.	18.0	17.0 3/19	15.0 5/4	.... 7/1	....	....	....	....	15.0	18.0	15.0	20.0	17.0	20.0	14.0	19.0	14.0	18.0	13.0	1.0	1.0	2.5	2.5	3.0
Seattle, Wash.	14.0	11.0 1/19	13.5 5/27	14.5 6/5	...	....	..	....	14.5	14.5	11.0	16.0	13.0	15.0	13.0	16.0	12.0	20.0	13.0	2.0	2.0	2.0	2.0	2.0
Minneapolis, Minn.	15.2	14.2	12.0	11.0	....	..	....	....	11.0	15.2	11.0	20.2	15.2	20.2	13.2	18.9	12.0	....	....	...	...	2.0	2.0	2.0
Average price	17.567	....	....	....	..	..	....	....	14.856	18.128	14.316	19.717	15.713	19.667	13.638	18.99	13.27	21.71	13.65	1.32	1.76	2.34	2.47	2.83

Note—Changes given in the above table were made by the several Standard companies in the sections in which they operate. In addition to the posted price in the territory of the Standard Oil Co. of Indiana a quantity purchase rebate schedule was in effect until January 19. The schedule was: On purchases over 750 gallons a month, one-half cent; over 2,000 gallons, three-fourths cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1½ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year was 12 times the monthly agreed purchases, the discount was paid or credited on the entire quantity for the year less any monthly purchases.

On January 19 the Standard Oil Co. of Indiana posted the following quantity discount schedule with the exception that the discount on dumps of 15,000 gallons was not included until February 28. Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district, where discount applies only to dumps of 100 gallons. Outside the Chicago district the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery. Within the Chicago district the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery. If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

The Magnolia Petroleum Co. also had a similar schedule in Oklahoma, as follows: On purchases over 750 gallons a month, one-half cent; over 2,000 gallons, three-fourths cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. The same rule applied for annual discounts as with the Standard Oil Co. of Indiana.

‡Jacksonville prices include one-eighth cent inspection fee, but at Atlanta one-half cent fee is not included.

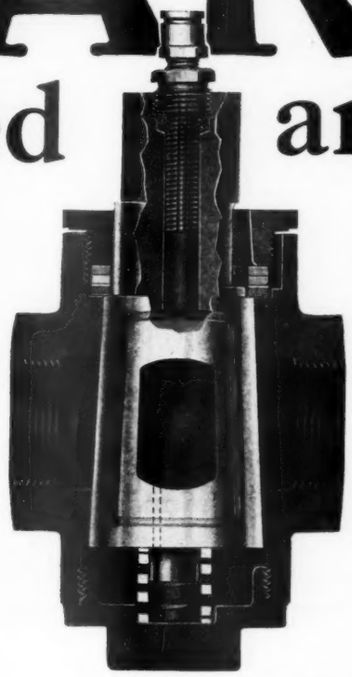
§Chicago prices based on dumps of 100 gallons, and Wichita prices on dumps of 50 gallons to January 19; after January 19 price at all Standard of Indiana points based on dumps of 50 gallons, except Chicago. Regular tank wagon posting 1 cent higher.

*Includes 1 cent city tax, as state tax was only 2 cents.

†Pennsylvania tax paid by dealers and is not to be added to tank wagon postings.

BARCO

balanced and lubricated



PLUG VALVES

for meter by-pass lines

DUST or dirt carried by gas in the meter by-pass line cannot prevent a Barco plug valve from operating. The seat is wiped clean at every turn of the plug.

Any available labor can be used to operate this valve because it is balanced and lubricated. It will not stick.

It can be throttled to any desired opening without injury to the valve.

For any application in the handling of oil or gas, Barco plug valves offer distinct advantages. Ask for Bulletin 306 explaining the exclusive features of this superior valve.

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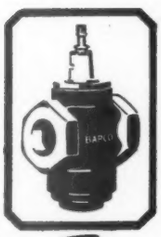
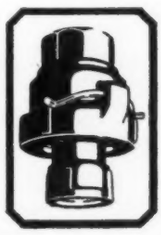


BARCO



Valves and Joints

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B & K Pipe Threading Machines have demonstrated their worth in the oil fields by half a century of service. Their Peerless dies reduce friction to a minimum and give more perfect threads per hour with less power than any other type of die.

Go out into any of the fields and you'll find that shop men prefer B & K Pipe Threading Machines.

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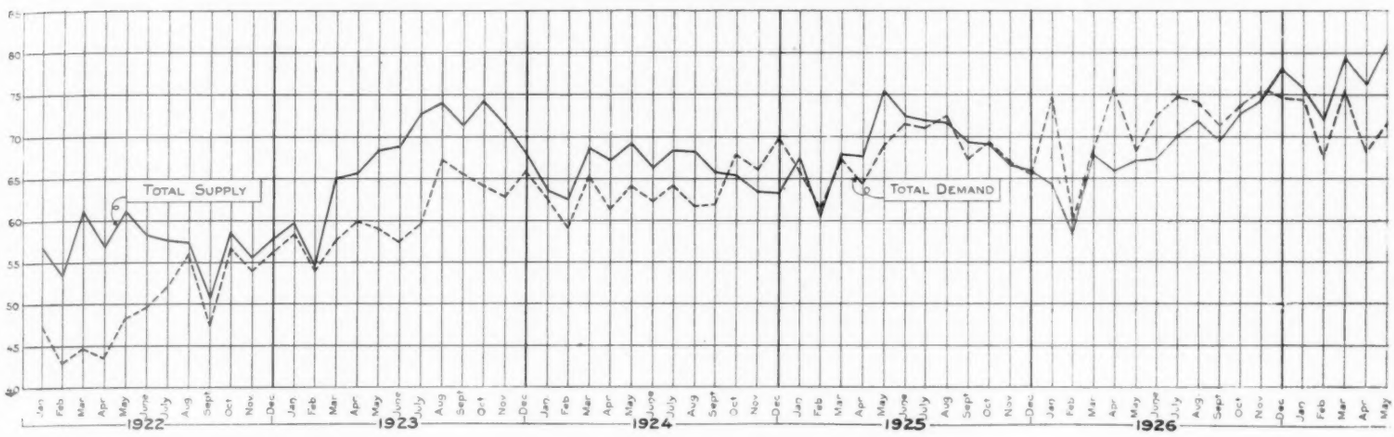
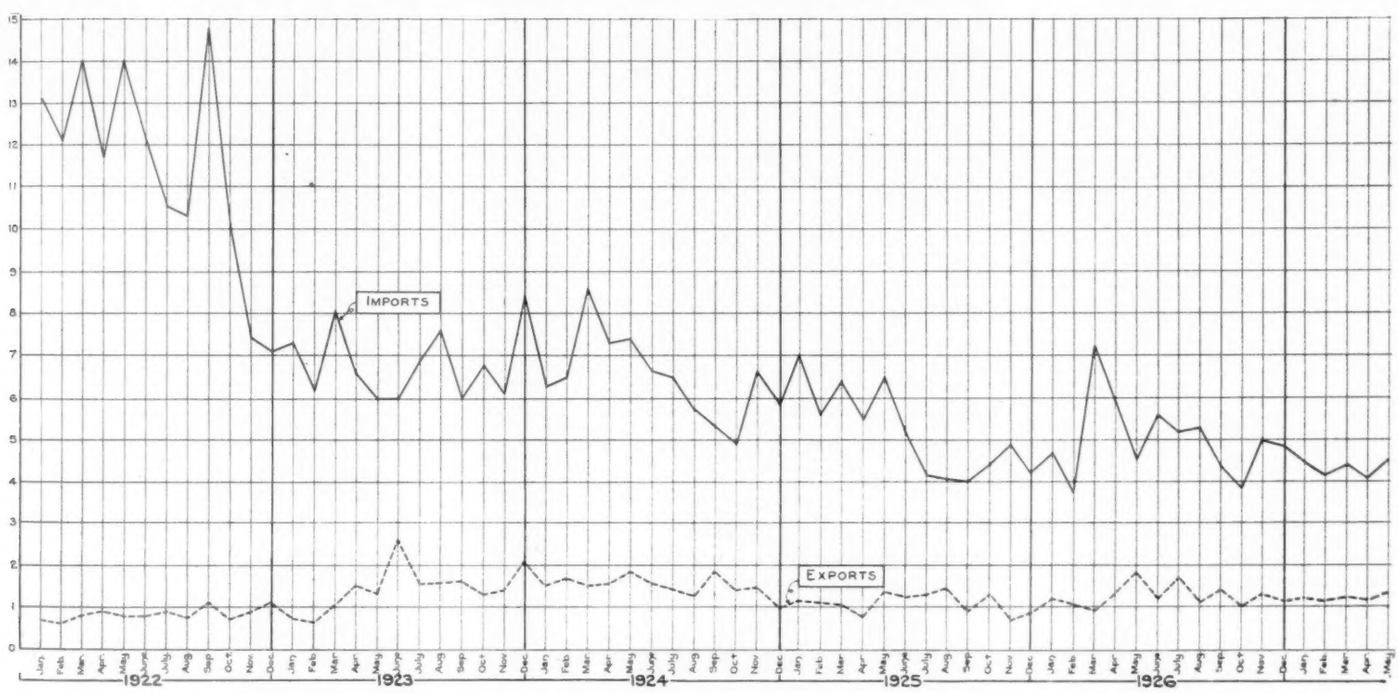
Graphic Analysis of the Petroleum Industry

Based on Latest Available Reports of the Bureau of Mines

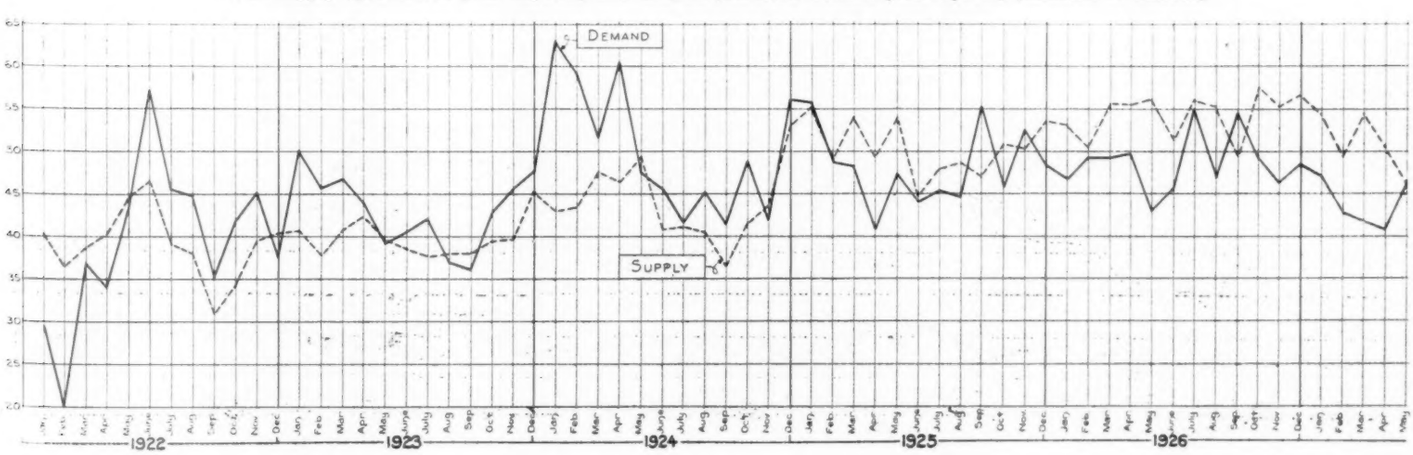
Crude oil supply (production plus imports) and demand (domestic consumption plus exports). Data on demand include California fuel oil starting January 1, 1925 (millions of barrels).



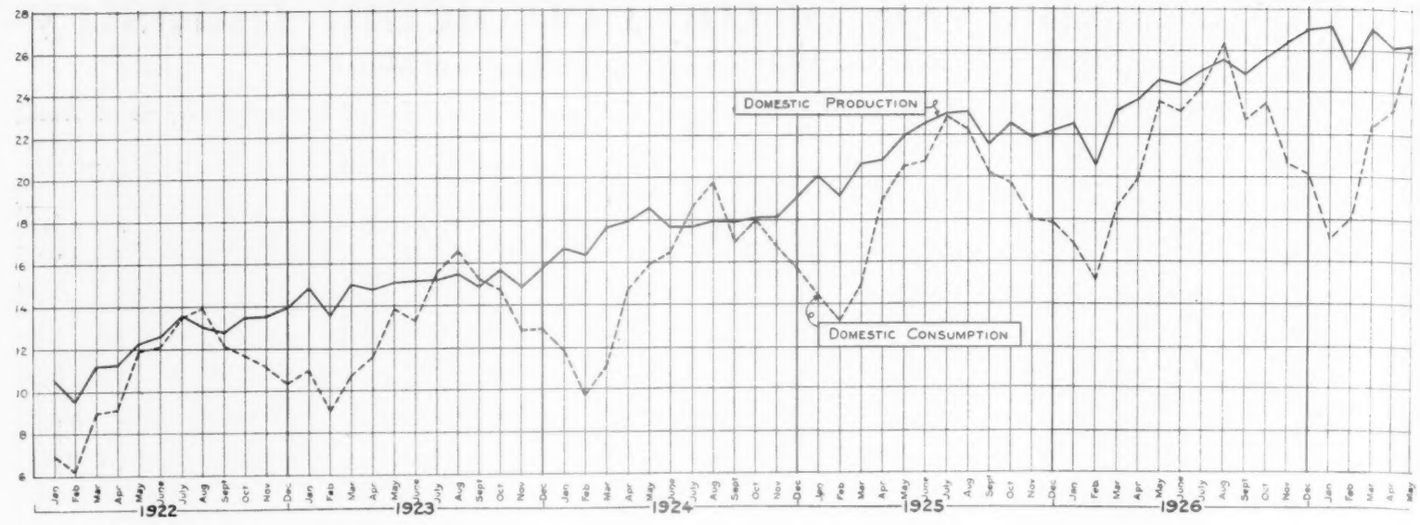
Crude oil imports and exports (millions of barrels).



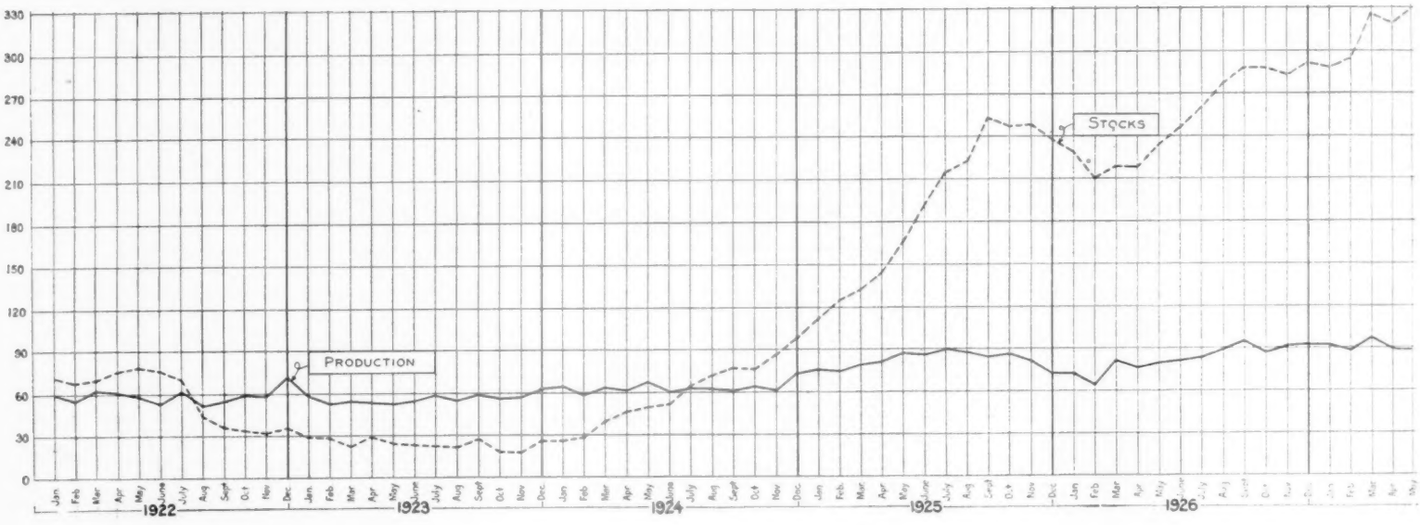
Wax supply (production plus imports) and demand (domestic demand plus exports) (millions of barrels.)



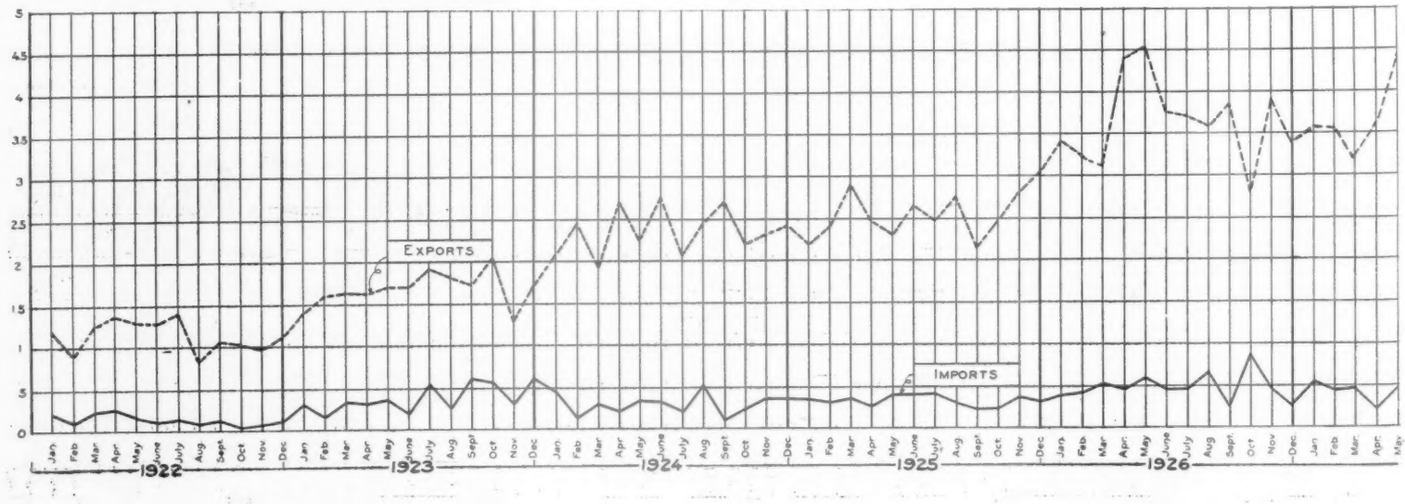
Domestic gasoline production and consumption (millions of barrels).

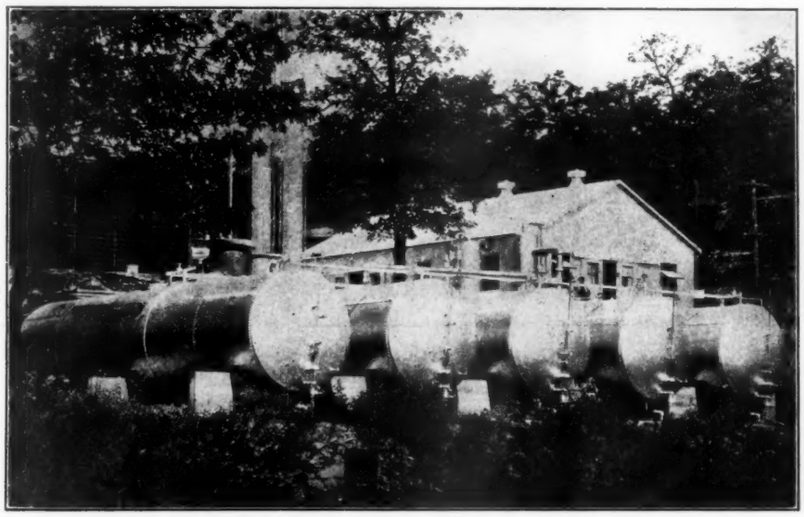


Stocks and production of petroleum coke (thousands of tons).



Gasoline imports and exports (millions of barrels.)





Charles Page Interests—Bruner Station, near Sand Springs, Okla. Tanks, Bridges and Metal Buildings coated with Bitulumin.

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Sun's ultra violet rays cause rapid surface breakdown

Aluminum paints largely immune

Correctly made aluminum paints like Bitulumin are largely immune to destructive ultra violet rays. They will outlast the best oil and zinc paints by two to one.

Bitulumin forms a protective coating of tiny aluminum flakes like shingles held firmly together by its moisture proof liquid vehicle. It is both light proof and weather proof.

Because Bitulumin deflects approximately 86% of sun rays it makes for cooler surfaces and in the case of tanks reduces evaporation.

Bitulumin altho widely used for painting oil storage is equally efficient on tank cars, metal buildings, refinery equipment, still towers, water tanks, bridges, etc.

Bitulumin, put up in double containers to insure fresh mixing, is manufactured by Hill, Hubbell & Company, manufacturers of a special line of paints and protective coatings for the oil industry.

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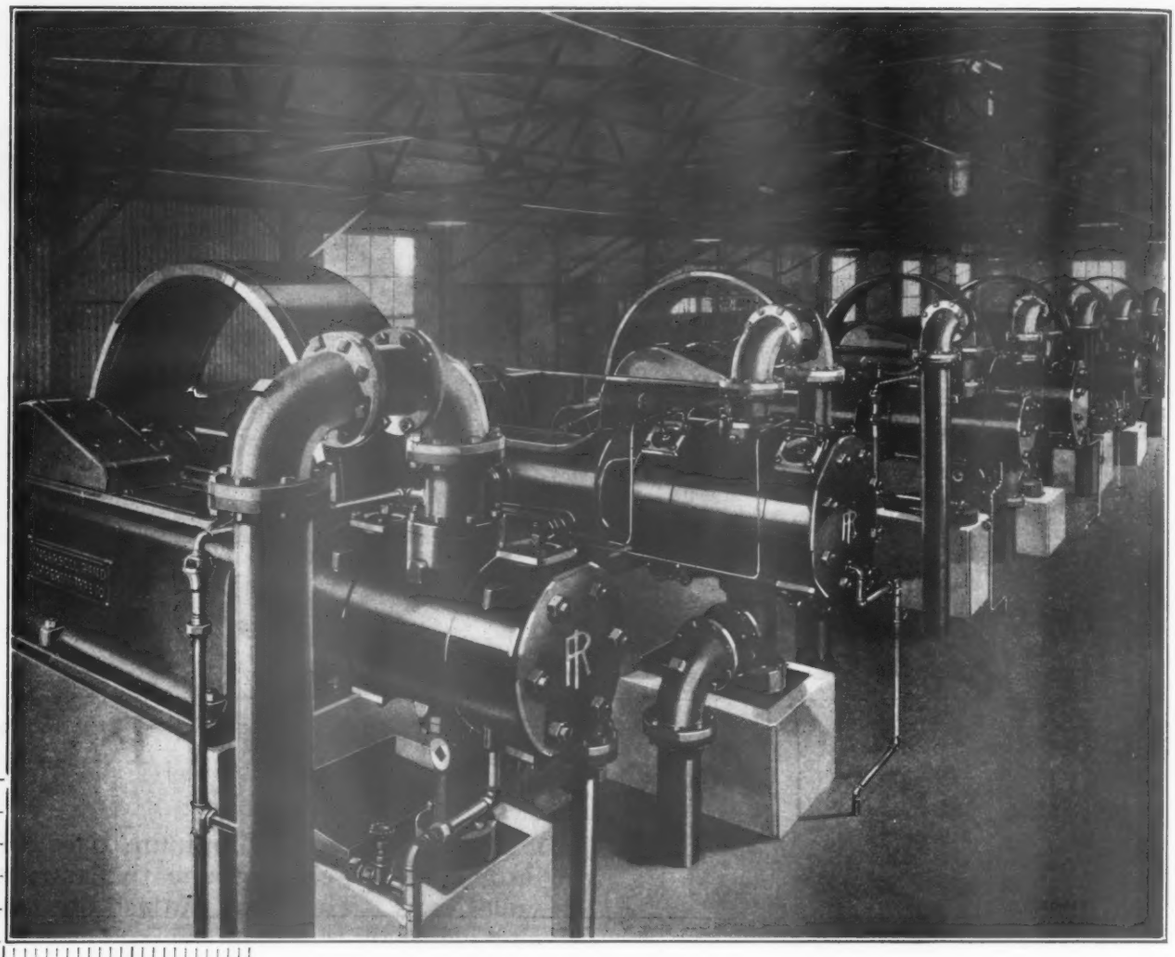

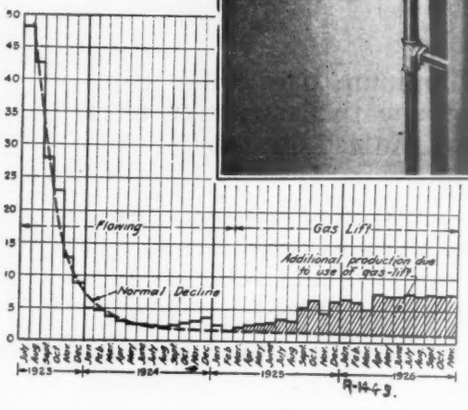

Did Your Production Follow the Curve?

If your own production chart has not followed the line of the above curve, what are you doing to correct it?

An Air or Gas Lift System of Pumping will give your production chart an upward tilt, and that is especially true if the Compressor plant is right.

For the past several years, Ingersoll-Rand Engineers have been working in the oil fields on this system of pumping. Now they have designed and built the Type XOB Compressor.

This Compressor was built with one thing in mind—to fit the oil producer's job.

The Type XOB Compressor is a two-stage machine of duplex construction. This construction gives a flexibility to the Compressors which can be obtained with no other design.

Different sizes of cylinders are available for this unit, so that it can easily meet any pressure conditions it is liable to encounter. These are all stocked in local warehouses throughout the fields; hence immediate delivery is always possible.

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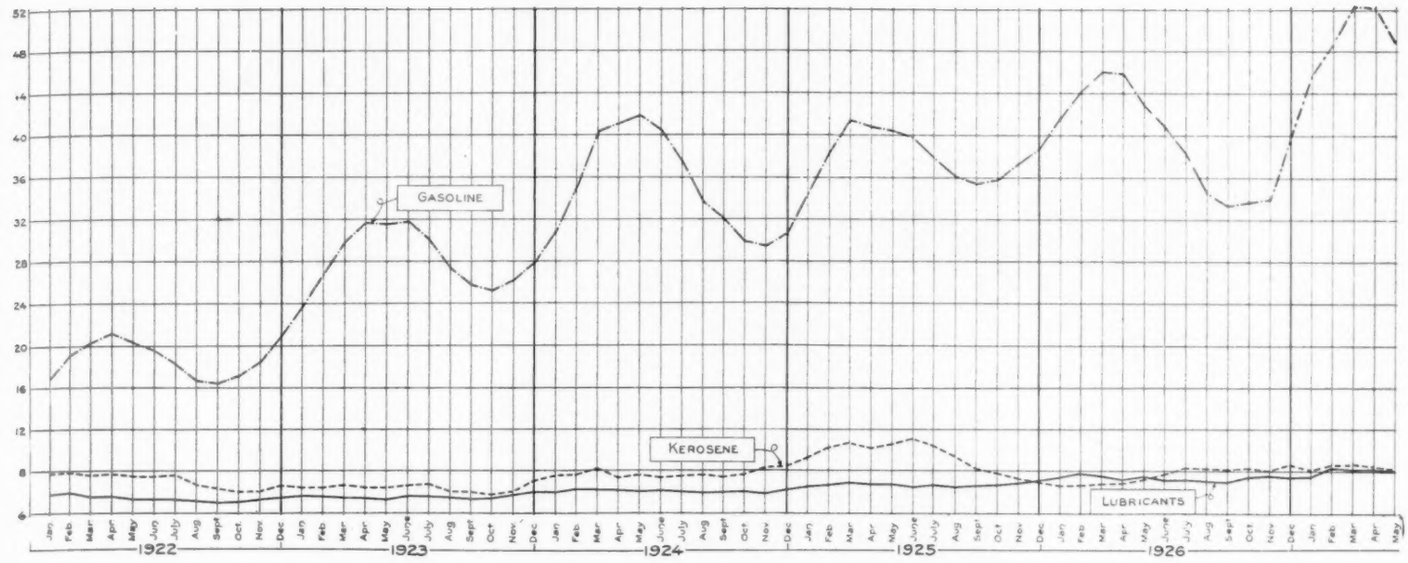
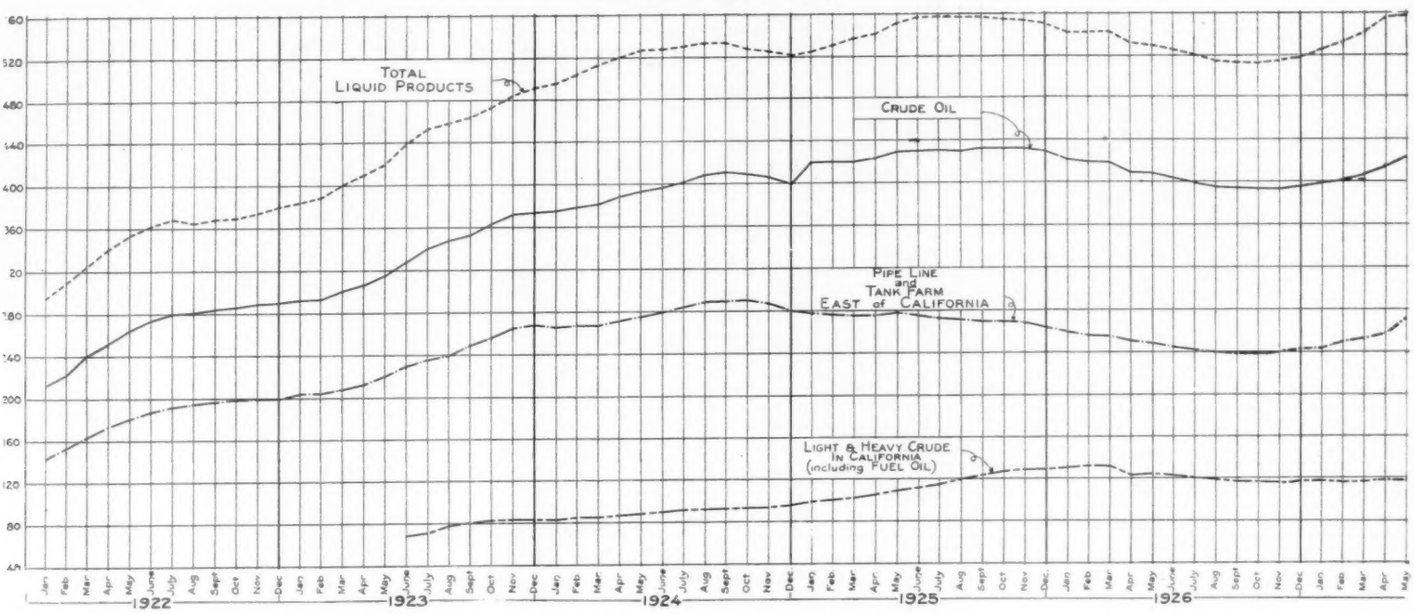
887-C

Ingersoll-Rand

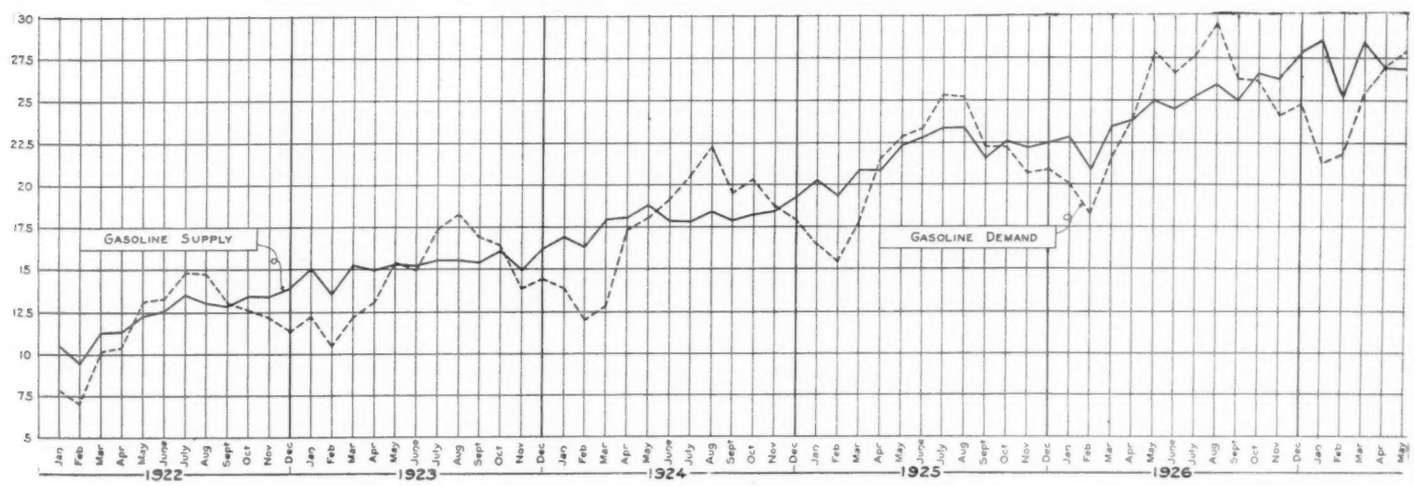
Gasoline, kerosene and lubricating oil stocks (millions of barrels).



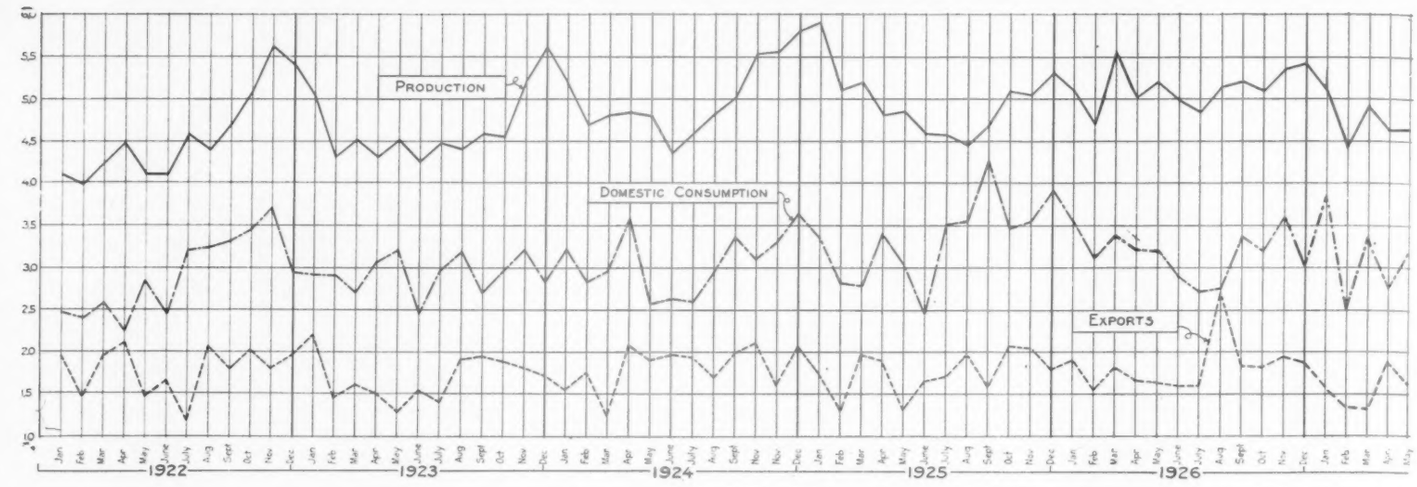
Crude oil stocks. The total liquid stocks given in line "Crude Oil and Refined Products" consists of all crude oil and refined products reduced to barrels (millions of barrels).



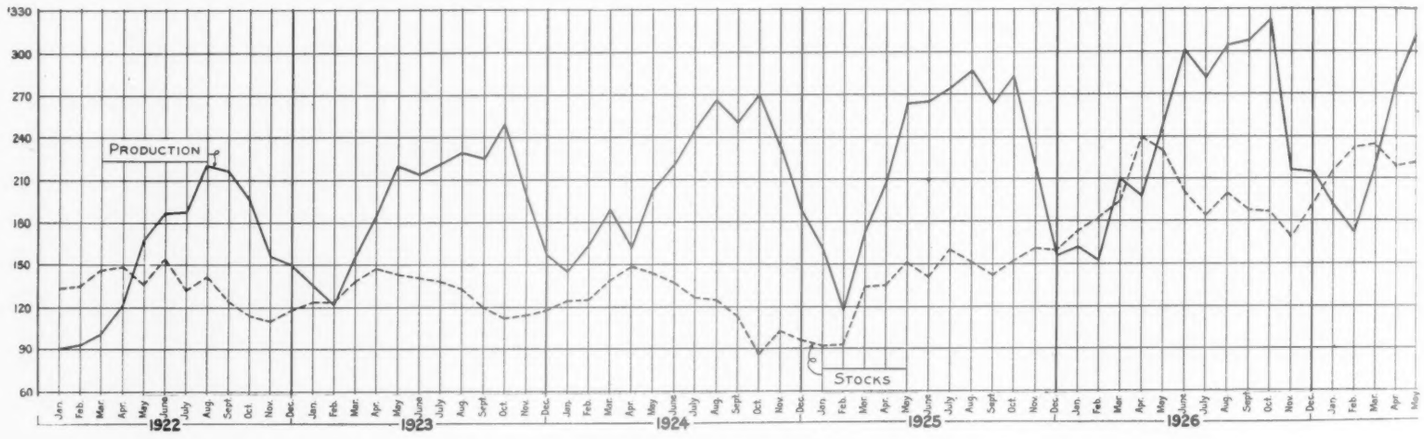
Gasoline supply (production plus imports) and demand (domestic demand plus exports), (millions of barrels).



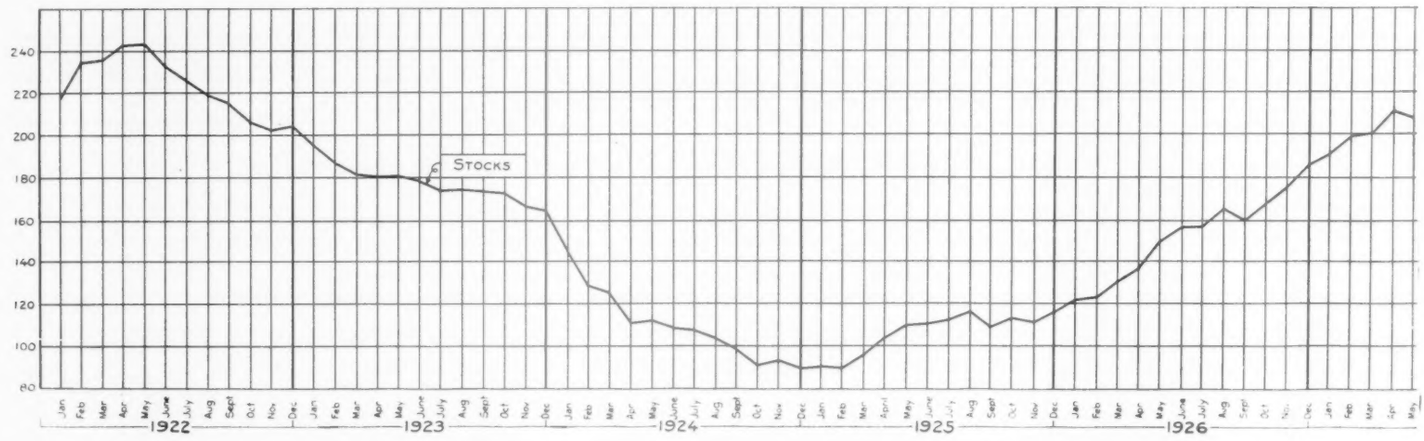
Kerosene production, exports and imports (millions of barrels).



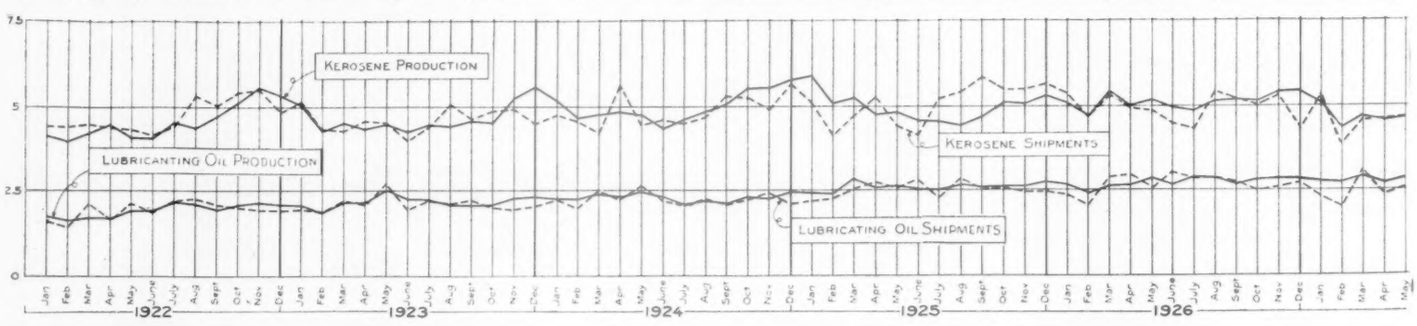
Petroleum asphalt production and stocks (thousands of tons).



Stocks of wax (millions of pounds).



Kerosene production and kerosene shipments (domestic consumption plus exports). Lubricating oil production and shipments (domestic consumption plus exports). Kerosene and lubricating oil imports are so small that they are not an appreciable factor in total production (millions of barrels).



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A Tret-O-Lite plant can be arranged and put in operation *within a few hours*, using pipe, tanks, and pumps already on the lease. Consult with our field engineer as to the proper type of Tret-O-Lite for your oil, and the proper method of treatment. Then keep a stock of Tret-O-Lite on hand, so that you can start treating whenever your oil starts cutting.

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Curtailment of Cracking Programs

Outstanding Development in California. With Crude Output Under Control Better Outlook for Last Half Year

By Special Correspondent

The refining situation in California during the first half of 1927 has been subject to two major tendencies. The first and most important by far is the sudden reversal of program on the part of the principal refining companies as regards cracking. In the first three months of 1927, the Standard Oil Co. of California and the Shell Company of California had both started on very elaborate construction programs with a view to producing a greatly increased volume of cracked gasoline. To a somewhat lesser extent but nevertheless on a large scale, other companies such as the Richfield Oil Co. of California, California Petroleum Corp. and Union Oil Co. of California were planning on increased cracking facilities.

In early April, the California market structure was shattered. Crude oil prices were cut very drastically and gasoline prices went considerably below the cost of production and marketing even when calculated on the basis of the new low crude schedule. It became impossible to make straightrun gasoline and break even. Therefore it was entirely out of the question to produce cracked gasoline at a profit. In view of this unfortunate marketing situation and the inability to look forward to any real stabilization of conditions for some time to come, most of the companies which had obligated themselves to build cracking units either delayed the construction as much as possible, cut down the program very drastically or abandoned the idea entirely for the time being. From all appearances the company which has been most undisturbed by the conditions just outlined has been the Shell company of California which has gone right ahead with the construction of the Dominguez refinery. It is generally understood that this plant is exclusively a cracking refinery. It is to use fuel oil as its charging stock and will turn out gasoline and coke as its sole finished products. The Dubbs Process is being installed. This Dominguez refinery of the Shell company is not yet ready for operation, however, and it is probably intended to have this plant ready for producing gasoline on an enormous scale as soon as the market is able to absorb it and not before.

Start Small Plants

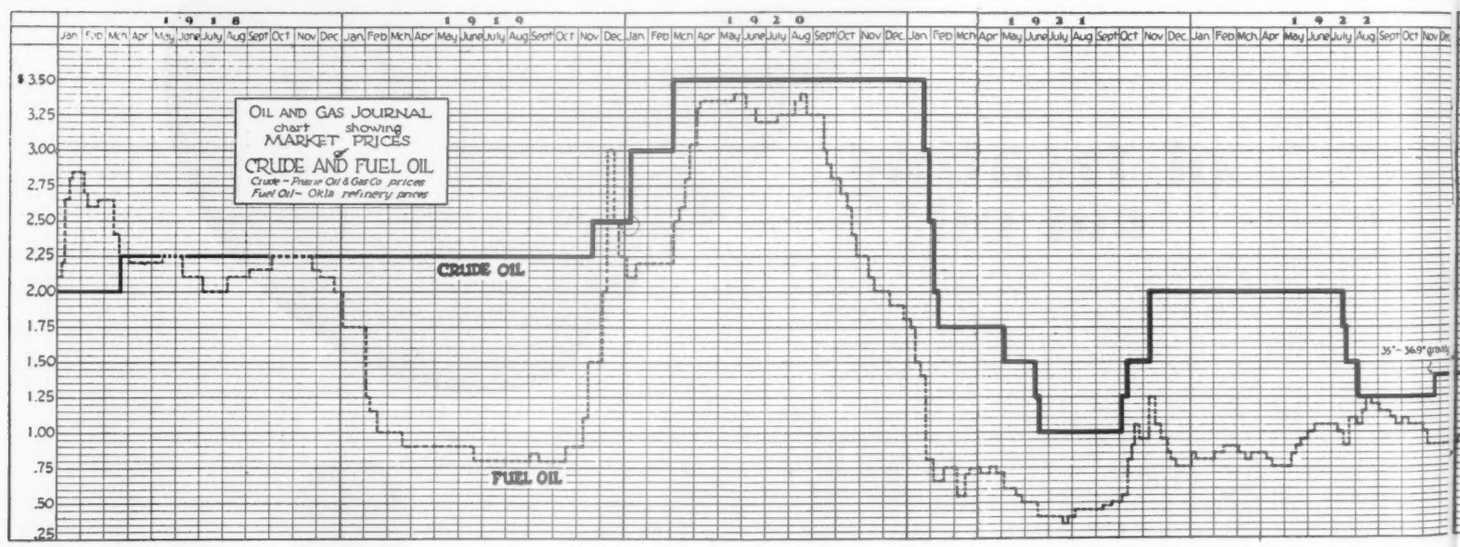
The other tendency which is very noticeable in the California refining situation is the desire of many people to build small refineries and topping plants to operate on the very cheap crude now available. This has been particularly true in the last 60 days because during May and June retail gasoline prices recovered considerably from the low levels reached in April. This tendency to build small plants and reopen some which are ready to operate but have been shut down for several years, is one which is not resolving itself into activity but is merely an expressed desire.

The difficulty with the proposition of operating a small refinery in California at this time is that it is practically impossible to dispose of the fuel residum. The big companies have the fuel oil trade well in hand at low prices. The prices are so low that any additional concession which the small and relatively irresponsible operator could offer his customers would not be attractive because of the risk the customer would take in not being able to obtain delivery over a considerable period without gambling on the continuous operation of the small plant. Another difficulty is that while retail gasoline prices in California are now relatively good, the wholesale market has not quite kept up with the improvement in the retail market and therefore it would be necessary for any small refiner to not only be able to produce gasoline but to find a retail outlet, which is both expensive and hazardous. Added to this is the feeling that the relatively good prices now obtaining may not outlast the summer. It can readily be seen why very few of those who would like to go into the small refining business have the hardihood to actually try it.

From the viewpoint of the country at large, the small refinery movement of California is of no interest because it does not affect the market situation anywhere but in a relatively small proportion of the state of California itself. The practical shutdown of cracking operations, however, is of very great interest to refiners and marketers in other parts of the Union.

Lubricating Oils

During the past half year the same tendency has continued which has already been manifested in California for a year or two in connection with the manufacture of lubricants. Formerly there were a number of small plants devoting themselves either in part or entirely to the refining of lubricating oils. Only one or two of these now exist and they lead a very precarious existence. Lubricating oil prices in California have sagged continuously as the bigger oper-



Date	Price Crude	Price Fuel Oil
1918		
January 1	$ 2.00	$2.10
January 5		2.20
January 10		2.65
January 15		2.80
January 20		2.81
February 4		2.70
February 10		2.60
February 25		2.65
March 12		2.40
March 17		2.25
March 19	2.25	
April 2		2.20
May 14		2.25
June 8		2.10
July 4		2.00
August 5		2.10
September 4		2.15
October 3		2.25
November 25		2.15
December 5		2.10
December 20		2.00
1919—		
January 2		1.75
Febrary 3		1.25
February 9		1.15
February 20		1.00
March 21		.90
June 21		.80
September 2		.85
September 12		.80
October 17		.90
November 8		1.10
November 15		1.50
November 20	2.50	
December 2		2.00
December 8		3.00
December 16		2.50
December 21		2.25
1920—		
January 2		2.10
January 6	3.00	
January 16		2.20
March 1	3.50	
March 3		2.50
March 12		2.60
March 18		2.80
March 26		3.05
April 3		3.30
April 6		3.35
May 25		3.40
June 7		3.30
June 20		3.20
July 14		3.25
August 6		3.35
August 14		3.40
August 27		3.25
September 13		3.00
September 16		2.90
September 27		2.80
October 8		2.70
October 15		2.60
October 18		2.40
October 28		2.25
November 12		2.10
November 18		2.00
December 10		1.90
December 29		1.80
1921—		
January 6		1.75
January 12		1.50
January 20		1.40
January 24	3.00	
January 28		.80
January 31	2.50	
February 4	2.00	.65
February 9	1.75	
February 19		.75
March 4		.56
March 14		.70
March 21		.75
April 3		.70
April 16		.75
April 20		.70
May 2	1.50	
May 3		.60
May 21		.55
May 28		.50
June 13	1.25	
June 16	1.00	.40
June 20		.35
July 26		.40
August 6		.45
September 10		47½
September 21		.50
October 1	1.25	
October 6		.55
October 7	1.50	
October 10		.80
October 15		.90
October 19		1.05
October 24		.95
November 7	2.00	
November 8		1.25
November 16		1.05
November 20		.95
December 1		.85
December 5		.80
December 12		.75
1922—		
January 1		.85
January 5		.80
February 1		.85
February 14		.90
March 2		.85
March 10		.80
March 16		.85
April 9		.80
April 15		.70
May 9		.85
May 15		.90
May 20		.95
June 1		1.00
June 9		1.05
July 8		1.00
July 15	1.75	.90
July 18		1.50
July 22		1.10
August 2	1.25	1.05
August 7		1.15
August 14		1.25
August 25		1.20
September 1		1.15
September 15		1.10
September 24		1.05
October 1		1.10
October 10		1.05
November 1		1.00
November 8		.90
November 22 (35°-36.9)	1.40	
1923—		
January 5		.95
January 13	1.50	
January 17	1.60	1.00
January 27	1.70	
February 2	1.80	
February 10	1.90	
February 15		1.05
February 17	2.00	
April 8		1.10
April 14		1.15
April 23	1.80	
May 2	1.80	
May 5	1.70	1.05
May 12	1.60	
June 2		1.00
June 19		.90
June 24		.90
July 15		.85

ating units were able to increase their scale of operations and thus lower prices.

This not only has resulted in the practical elimination of the small lubricating oil refiner but in a definite improvement in the quality of product turned out by the five or six large refiners of lubricating oils, because of the extremely severe competition which exists. There has been a noticeable growth in the tendency of Pacific Coast motorists and other consumers to use California asphalt base lubricants.

Some years ago there was a very distinct prejudice against these oils and the most devoted "Californian" could be found demanding paraffin base oils. There is still a very large class of trade in California which demands Pennsylvania quality oils but its relative importance is gradually becoming less.

Export Trade

Despite the low prices in effect at Gulf ports and the consequent advantage of Gulf Coast exporters over their California competitors, in the Australian and Oriental markets, California gasoline, kerosene, asphalt and other products have been moving into these markets in good volume. Particularly during late April and early May when the California domestic market was badly demoralized, there was a tendency for California refiners to seek an outlet overseas. This resulted in the placing of large orders, some of which are still in the process of being filled. Kerosene shipments from California ports to the several Chinese markets reached very large proportions in June.

It was a typical re-enactment of the orgy of overselling in this market which we have witnessed from time to time during past years. Not only were prices severely depressed by the smaller exporters but considerable quantities of kerosene were shipped on consignment. Within the last week the Standard Oil Co. has cut the price of kerosene in Shanghai one dollar Mex. This is equivalent to about 47 cents United States gold. This cut will undoubtedly make for considerable losses on much of the kerosene which was shipped during the past month. Whether this situation will improve in the early fall is problematical but many well-informed exporters are expecting it to do so. It is not yet clear as to whether the new Russian competition in the China market is going to become sufficiently severe to hurt the California trade in the near future or not, but it is being watched with great interest.

Future Possibilities

At the present time the production of crude in California is showing a decided downward trend. This has been due to two causes. First is the gradual depletion of the old fields without any large new development taking place. There has been a development of new producing areas at Seal Beach and Huntington Beach but neither of these has been of the first rank. The second cause is the keen appreciation of all operators in California of the great weakness of the crude oil price structure of the country as a whole, even at the low levels now existing. The appreciation of this condition has made possible a certain amount of co-operation in the shutting in of settled producing areas in which the properties were either held in fee or agreements could be reached with the lease owners.

At the present time an excess of 30,000 bbls. per day of light refining crude is shut in in California and an even larger amount of heavy crude. At this writing there are two or three prospective areas in California which look as though they might open new production on a grand scale. This is particularly true of the Seacliff wildcatting of the Chanslor-Canfield Midway Oil Co. (Santa Fe Railroad) in northern Ventura County. Much of this prospecting is, however, in the hands of strong companies who will be able to keep it from being disastrously developed in the event that major pools are uncovered. One is therefore justified in concluding that the production situation in California is pretty well under control.

This would leave available for the refineries of the state for the balance of the year, a slowly decreasing amount of refining crude which, as already outlined, is being largely converted into straight-run gasoline and fuel oil with only a nominal proportion of the fuel oil or intermediate distillates being cracked. This is the situation as it stands today and it looks as though it might continue through the balance of the year. If the indiscriminate price cutting which characterized this spring can be prevented from recurring as the summer season of high consumption passes, the California industry will end the year in relatively good condition financially. It looks at the present time like a three to one chance that this will be the probable development.

SYNTHETIC PETROLEUM

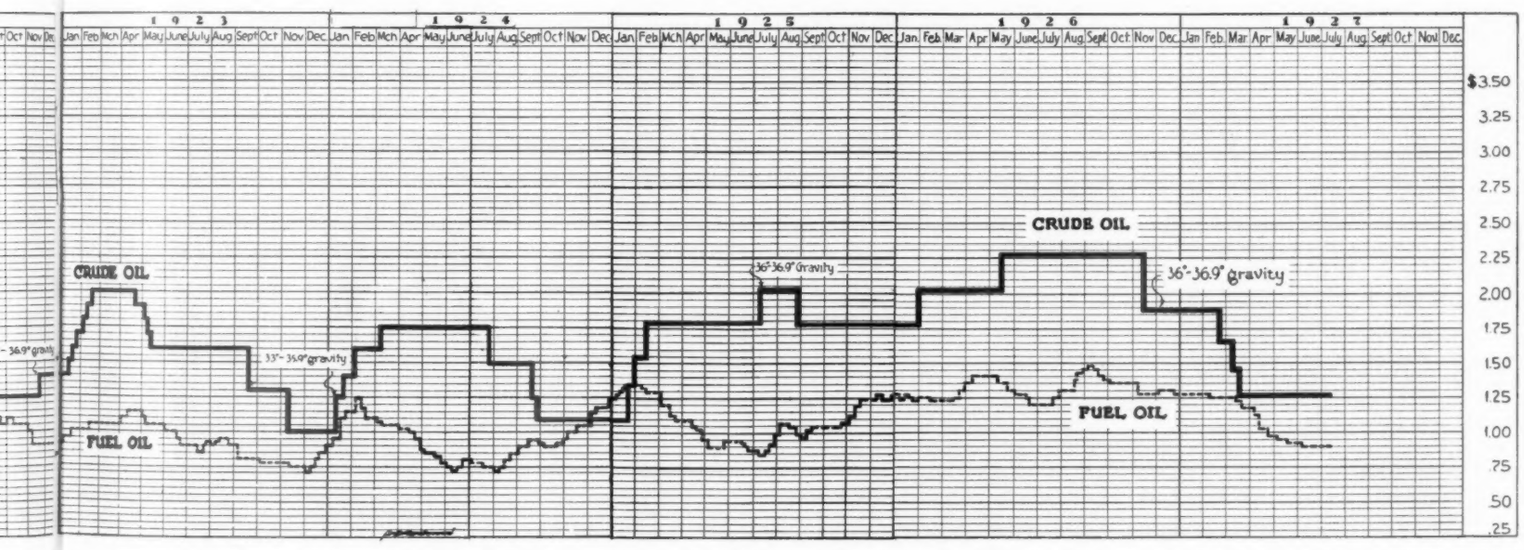
Dr. Hans Tropsch, of the Kaiser Wilhelm Institute, Mulheim-Ruhr, Germany, speaking before the Institute of Chemistry of the American Chemical Society at the Pennsylvania State College, stated: "Fuels of any kind or grade can be converted into any of the known constituents of petroleum oil by catalytic processes recently discovered in Germany. The liquefaction of coal by the Bergius process is strictly limited to bituminous coal and lignite, but the newly discovered process has no such limitations. Nature's methods of formation of petroleum is probably duplicated by our newly discovered synthetic methods, and we are now able to prepare from carbon monoxide and hydrogen all of the useful compounds present in petroleum."

OPENS SEMINOLE BRANCH

Gustin-Bacon Manufacturing Co., who, through its main office in Kansas City and its store in Tulsa, is offering a complete belting and supply service, has opened a store and warehouse in Seminole, Okla., to render a more expeditious service in that field.

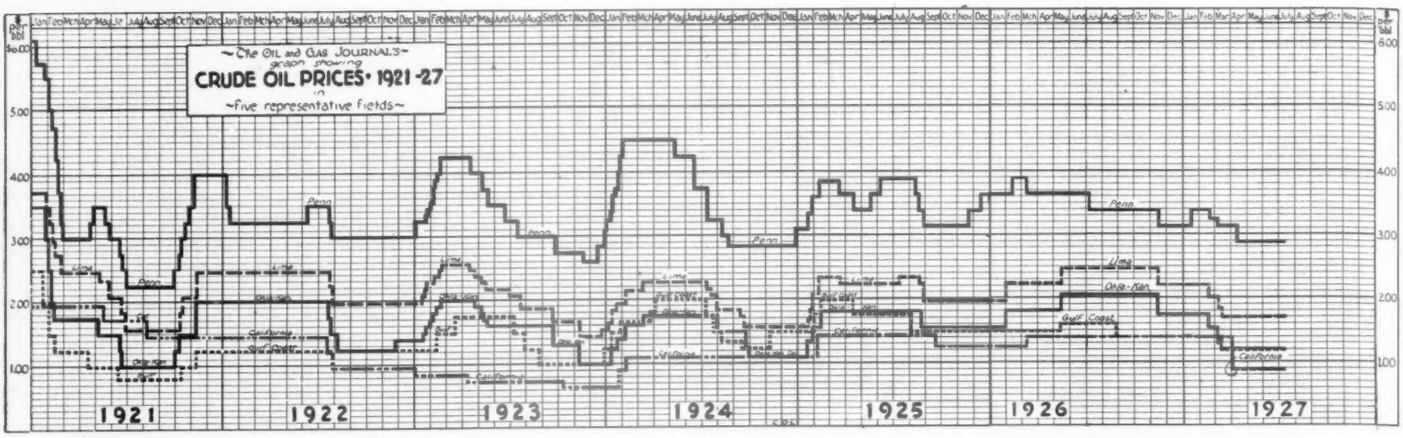
The warehouse carries complete stocks of leather and rubber belting, packing waste and other oil field supplies. A competent belt maker is provided to do all leather belting work and repairs.

A feature of Gustin-Bacon Manufacturing Co.'s business is in Buck oil and gas separators and Buck regulators and valves. A complete stock as well as engineering service is maintained at the Seminole branch.



July 21		.90	July 1		.77½	June 30		.87½	August 24		1 42½
July 26		.92½	July 17 (33° and above)	1.75	....	July 7		.85	August 31		1 45
August 1		.90	July 22		.75	July 10 (36°-36.9)	2.04	....	September 7		1 47½
August 6		.92½	July 28	1.50	....	July 14		.87½	September 14		1 45
August 12		.95	August 5		.72½	July 21		.92½	September 21		1.40
August 27		.90	August 12		.75	July 28		1 00	September 28		1 37½
September 8		.80	August 19		.80	August 4		1 07½	October 5		1 35
September 19 (33°-39.9)	1.30	....	August 26		.85	August 18		1.05	November 9		1.27½
October 5		.77½	September 2		.90	August 25		1 00	November 17	1.90	....
November 8	1.60	....	September 16		.95	August 27	1.79	....	December 7	....	1.30
November 10		.75	September 17	1.25	....	September 1		.97½	December 28	....	1.27½
December 1		.70	September 27 (33°-35.9)	1.10	....	September 8		1 02½	1927—		
December 7		.75	September 30		.92½	September 15		1 05	January 1	1.90	....
December 14		.80	October 7		.90	October 27		1 07½	January 4	....	1 27½
December 21		.85	October 21		.92½	November 3		1 12½	January 11	....	1 27½
December 29		.90	October 28		.95	November 10		1 20	January 18	....	1 27½
1924—			November 4		1.00	November 17		1 25	January 25	....	1.27½
January 8		.95	November 18		1 05	December 8		1 27½	February 1	....	1 27½
January 9 (33°-35.9)	1.25	....	December 2		1 15	December 15		1 25	February 8	....	1 25
January 15		1.10	December 9		1.17½	December 29		1 27½	February 15	....	1 25
January 19	1 40	....	December 30		1.25	1926—			February 22	1.67	1 25
January 22		1.15	1925—			January 5		1 25	March 1	....	1 25
February 2	1 60	....	January 6		1 27½	January 12		1 27½	March 5	1.47	....
February 5		1 25	January 13		1.30	January 19		1 25	March 8	....	1.25
February 12		1.17½	January 20		1 32½	January 26		1 22½	March 12	1.28	....
February 19		1.10	January 22	1.35	....	February 1	2.04	....	March 15		1 22½
March 4		1.07½	January 27		1.35	February 2		1 25	March 22		1.17½
March 8	1.75	....	January 30	1.55	....	February 16		1 22½	March 29		1.17½
March 11		1.05	February 10		1.32½	March 16		1 25	April 5		1 12½
April 1		1 02½	February 12	1 80	....	March 23		1 30	April 12		1 02½
April 15		1.00	February 17		1 30	March 30		1 35	April 19		.97½
April 22		.95	March 3		1.20	April 13		1 40	April 26		.97½
April 29		.87½	March 17		1.12½	May 11		1.35	May 3		.95
May 6		.85	March 24		1 10	May 15	2.29	....	May 10		.95
May 20		.82½	April 14		1.05	May 25		1 30	May 17		.92½
May 27		.77½	April 21		1.02½	June 1		1.27½	May 24		.92½
June 3		.75	April 28		.95	June 15		1.25	May 31		.92½
June 10		.72½	May 5		.90	June 22		1 20	June 7		.90
June 17		.75	May 26		.95	July 20		1 25	June 14		.90
June 24		.80	June 16		.92½	July 27		1.30	June 21		.90
			June 23		.90	August 17		1.37½	June 28		.90

Crude Oil Price Changes First Half 1927



OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

	Jan. 1	Feb. 22	March 15	March 12	April 7	April 20	May 5
*Below 28 gravity	$1.30	$1.30	$1.20	$1.10	$1.05	$ .95	$1.05
28 to 28.9	1.50	1.35	1.23	1.12	1.05	.95	1.05
29 to 29.9	1.55	1.39	1.26	1.14	1.05	.95	1.05
30 to 30.9	1.60	1.43	1.29	1.16	1.05	.95	1.05
31 to 31.9	1.65	1.47	1.32	1.18	1.05	.95	1.05
32 to 32.9	1.70	1.51	1.35	1.20	1.05	.95	1.05
33 to 33.9	1.75	1.55	1.38	1.22	1.07	.97	1.07
34 to 34.9	1.80	1.59	1.41	1.24	1.09	.99	1.09
35 to 35.9	1.85	1.63	1.44	1.26	1.11	1.01	1.11
36 to 36.9	1.90	1.67	1.47	1.28	1.13	1.03	1.13
37 to 37.9	1.95	1.71	1.50	1.30	1.15	1.05	1.15
38 to 38.9	2.00	1.75	1.53	1.32	1.17	1.07	1.17
39 to 39.9	2.05	1.79	1.56	1.34	1.19	1.09	1.19
40 to 40.9	2.10	1.83	1.59	1.36	1.21	1.11	1.21
41 to 41.9	2.15	1.87	1.62	1.38	1.23	1.13	1.23
42 to 42.9	2.20	1.91	1.65	1.40	1.25	1.15	1.25
43 to 43.9	2.25	1.95	1.68	1.42	1.27	1.17	1.27
44 to 44.9	2.30	1.99	1.71	1.44	1.29	1.19	1.29
45 to 45.9	2.35	2.03	1.74	1.46	1.31	1.21	1.31
46 to 46.9	2.40	2.07	1.77	1.48	1.33	1.23	1.33
47 to 47.9	2.45	2.11	1.80	1.50	1.35	1.25	1.35
48 to 48.9	2.50	2.15	1.83	1.52	1.37	1.27	1.37
49 to 49.9	2.55	2.19	1.86	1.54	1.39	1.29	1.39
50 to 50.9	2.60	2.23	1.89	1.56	1.41	1.31	1.41
51 to 51.9	2.65	2.27	1.92	1.58	1.43	1.33	1.43
52 and above	2.70	2.31	1.95	1.60	1.45	1.35	1.45
Corsicana heavy	1.25	1.25	1.10	1.10	‖1.00	1.00	1.00

Note: Gravity price schedule includes postings of all major companies in field with exceptions shown.

Postings by: Prairie Oil & Gas Co., The Texas Company and Sinclair Crude Purchasing Co., includes Oklahoma, Kansas and North Texas. Magnolia Petroleum Co., includes Oklahoma, Kansas, North Texas, Panola County in East Texas, Lytton Springs in Southwest Texas and (after March 5) the Iatan district in West Texas. Humble Oil & Refining Co., includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs and Corsicana light. Carter Oil Co. and Gypsy Oil Co., includes Oklahoma and Kansas.

*Magnolia Petroleum Co. only. On January 1 the Humble Oil & Refining Co. and the Carter Oil Co. were paying 5 cents less for each degree in gravity below 28. On February 22 the Humble Oil & Refining Co. and the Carter Oil Co. reduced the differential per degree below 28 gravity to 4 cents. On March 5 the Carter Oil Co. posted a 3-cent differential per degree below 28 gravity. On March 7 the Humble Oil & Refining Co. also adopted a 3-cent differential. On March 12 these companies reduced the differential to 2 cents. Other companies do not buy crude below 28 gravity.

†Adopted by Humble Oil & Refining Co. March 7.

‡Adopted by Carter Oil Co. and The Texas Company March 14.

§Posted only by Magnolia Petroleum Co.

‖Magnolia Petroleum Co. posted Corsicana heavy at $1 on March 14.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Lytton Springs—Posted by the Magnolia Pipe Line Co. and Humble Pipe Line Co. under the Mid-Continent gravity schedule.

Thrall—Effective March 16, 1926, Magnolia Pipe Line Co. posts same price as corresponding grade Mid-Continent crude less 19½ cents freight.

Rockdale-Minerva—	Jan. 1	Mar. 14	Apr. 15
Up to 37.9 gravity	$2.10	$1.36	$1.25
38 to 38.9 gravity	2.10	1.36	1.27
39 to 39.9 gravity	2.10	1.59	1.29
40 and above	2.10	1.83	1.31

	Jan. 1	Mar. 14	Apr. 7	Apr. 20	May 5
Luling	$1.30	$1.05	$1.00	$ .95	$1.00
Calliham	1.75	No posted price. Follows market.			
Mirando	1.25	1.00	...	...	...

Somerset—	Jan. 1	Feb. 23	Mar. 7	Mar. 12	*Apr. 7
28 to 28.9 gravity	$1.35	$1.35	$1.23	$1.12	$1.05
29 to 29.9 gravity	1.45	1.39	1.26	1.14	1.05
30 to 30.9 gravity	1.60	1.43	1.29	1.16	1.05
31 to 31.9 gravity	1.65	1.47	1.32	1.18	1.05
32 to 32.9 gravity	1.70	1.51	1.35	1.20	1.05
33 to 33.9 gravity	1.75	1.55	1.38	1.22	1.07
34 to 34.9 gravity	1.80	1.59	1.41	1.24	1.09
35 to 35.9 gravity	1.85	1.63	1.44	1.26	1.11
36 to 36.9 gravity	1.90	1.67	1.47	1.28	1.13
37 to 37.9 gravity	1.95	1.71	1.50	1.30	1.15
38 and above	2.00	1.75	1.53	1.32	1.17

*Grayburg Pipe Line Co. only.

Note—Luling posted by the Magnolia Pipe Line Co. and Grayburg Pipe Line Co. Rockdale-Minerva by Kent-Middleton Refining Co. Calliham (Live Oak and McMullen Counties) by Dependable Oil Co. Mirando (Webb, Jim Hogg and Zapata Counties) by Texpata Pipe Line Co., Magnolia Pipe Line Co., Humble Oil & Refining Co. and the Crown Central Pipe Line Co. Somerset posted by Grayburg Pipe Line Co., Pioneer Oil Refining Co. and Witherspoon Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.	Jan. 1	Feb. 23	Mar. 7	Mar. 14
Lima	$2.21	$2.01	$1.84	$1.71
Wooster	2.25	2.05	1.90	1.77
Illinois	2.10	1.90	1.73	1.60
Indiana	1.98	1.78	1.61	1.48
Princeton	2.10	1.90	1.73	1.60
Plymouth	1.63	1.43	....	1.33
Waterloo	*1.35	....	....	....
Western Kentucky	1.83	1.63	1.46	1.33

Cumberland, Barrent, Clinton and Monroe Counties in Kentucky, and Clay and Pickett Counties ... Tennessee had posted price of $2.35 on January 1, set by the Paragon Development Co. On February 1 all reduced to $2.20; February 21 to $2; March 2, $1.80; March 7, $1.65, and March 16, $1.50.

*Waterloo reduced to $1.20 May 10.

†A premium of 20 cents is paid for Barren County crude.

Oil City, Ky., crude on January 1 was $2.35. The Still Oil Refining Co. posted the following changes on oil in their lines: January 31, $2.20; February 19, $2; March 2, $1.80; March 7, $1.65; March 16, $1.50.

	Jan. 1	May 27
Saginaw (Saginaw sand)	$2.95	$2.05
Saginaw (Brea sand)	....	1.95

Note: Saginaw, Mich., crudes posted by Sun Oil Co.

WEST TEXAS

*Iatan—On January 1 the Magnolia Petroleum Co. was paying $1.50; after March 4 it was placed on gravity basis with North and East Central Texas crudes. On January 1 the Kay County Gas Co. was paying $1.65 for Howard County crude with average gravity of 30 to 31. On February 22 both companies post $1.43; on March 5, $1.29, and on May 21, $1.05.

Crane, Upton and Crockett Counties—	Jan. 1	Feb. 22	†Mar. 7	Mar. 14
Below 26 gravity	$ .80	$ .80	$ .80	$ .70
26 to 26.9 gravity	.85	.84	.83	.73
27 to 27.9 gravity	.90	.88	.86	.74
28 to 28.9 gravity	.95	.92	.89	.76
29 to 29.9 gravity	1.00	.96	.92	.78
30 to 30.9 gravity	1.05	1.00	.95	.80
31 to 31.9 gravity	1.10	1.04	.98	.82
32 to 32.9 gravity	1.15	1.08	1.01	.84
33 to 33.9 gravity	1.20	1.12	1.04	.86
34 to 34.9 gravity	1.25	1.16	1.07	.88
35 to 35.9 gravity	1.30	1.20	1.10	.90
36 and above	1.35	1.24	1.13	.91

*Includes Howard and Westbrook Fields.

†Posted by Humble Oil & Refining Co. and Gulf Pipe Line Co. On March 8 by Kay County Gas Co.

Note—Gravity price schedule includes postings by Humble Oil & Refining Co., Kay County Gas Co. and (after March 7) the Gulf Refining Co., except as shown.

TEXAS PANHANDLE

Hutchinson and Carson—On January 1 the Magnolia Petroleum Co. was paying $1.20 for Hutchinson County crude and $1.25 for Carson County crude. The Gulf Pipe Line Co. was paying $1.25 for these crudes. Effective March 7, each was reduced to $1.05. This schedule was adopted by the Kay County Gas Co. on March 8. On March 14 all companies posted 95 cents.

March 8. On March 14 all companies posted 95 cents.

Wheeler and Gray (Humble Oil & Ref. Co. and Magnolia Petroleum Co. after March 14)—

	Jan. 1 Wheeler	Jan. 1 Gray	Feb. 22 Both crudes	*Mar. 7 Both crudes	Mar. 14 Both crudes
28 to 28.9 gravity	$ .90	$1.00	$1.00	$ .90	$ .80
29 to 29.9 gravity	.95	1.05	1.04	.93	.82
30 to 30.9 gravity	1.00	1.10	1.08	.96	.84
31 to 31.9 gravity	1.05	1.15	1.12	.99	.86
32 to 32.9 gravity	1.10	1.20	1.16	1.02	.88
33 to 33.9 gravity	1.15	1.25	1.20	1.05	.90
34 to 34.9 gravity	1.20	1.30	1.24	1.08	.92
35 to 35.9 gravity	1.25	1.35	1.28	1.11	.94
36 to 36.9 gravity	1.30	1.40	1.32	1.14	.96
37 to 37.9 gravity	1.35	1.45	1.36	1.17	.98
38 to 38.9 gravity	1.40	1.50	1.40	1.20	1.00
39 to 39.9 gravity	1.45	1.55	1.44	1.23	1.02
40 to 40.9 gravity	1.50	1.60	1.48	1.26	1.04
41 to 41.9 gravity	1.55	1.65	1.52	1.29	1.06
42 to 42.9 gravity	1.60	1.70	1.56	1.32	1.08
43 to 43.9 gravity	1.65	1.75	1.60	1.35	1.10
44 gravity and above	1.70	1.80	1.64	1.38	1.12

*Magnolia Petroleum Co. started posting Gray County crude on this schedule March 8.

GULF COAST

Jennings—On January 1 the Gulf Pipe Line Co. was paying $1.15 and March 5 set $1.05 made since.

Saratoga, Batson and Dayton—On January 1 the Sun Pipe Line Co. was paying $1.40, on March 8 posted $1.30 and on March 14, $1.20.

	Jan. 1	†Mar. 7	Mar. 14
Grade A	$1.40	$1.30	$1.20
Grade B*	1.40	1.25	1.15
Gulf Coast light*:			
Below 25 gravity	1.40	1.25	1.15
25 to 25.9 gravity	1.45	1.28	1.17
26 to 26.9 gravity	1.50	1.31	1.19
27 to 27.9 gravity	1.55	1.34	1.21
28 to 28.9 gravity	1.60	1.37	1.23
29 to 29.9 gravity	1.65	1.40	1.25
30 to 30.9 gravity	1.70	1.43	1.27
31 to 31.9 gravity	1.75	1.46	1.29
32 to 32.9 gravity	1.80	1.49	1.31
33 to 33.9 gravity	1.85	1.52	1.33
34 to 34.9 gravity	1.90	1.55	1.35
35 to 35.9 gravity	1.95	1.58	1.37
36 to 36.9 gravity	2.00	1.61	1.39
37 to 37.9 gravity	2.05	1.64	1.41
38 to 38.9 gravity	2.10	1.67	1.43
39 to 39.9 gravity	2.15	1.70	1.45
40 and above gravity	2.20	1.73	1.47

Note—Gulf Coast includes Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop fields.

*Grade B posted at flat price by The Texas Company. All other companies as Humble Oil & Refining Co., Gulf Pipe Line Co., Sun Pipe Line Co. and Magnolia Petroleum Co. (in Spindletop only) post Grade B crude on the same schedule as Gulf Coast light except do not differentiate price on gravities above 35. Oil 35 and above is posted at same price as 35 to 35.9 grade. The Texas Company is only one posting the complete schedule on Gulf Coast light oils.

†Sun Pipe Line Co. posted this schedule on March 8.

MEXICAN CRUDES

	Jan. 1	June 1
Panuco heavy (f.o.b. Tampico)	1.15	
Production tax Panuco	.12701	.12568
Export tax Panuco	.04928	

Note: Due to the fact that the exportation of Tuxpam light crude has become a negligible factor, prices will no longer be published.

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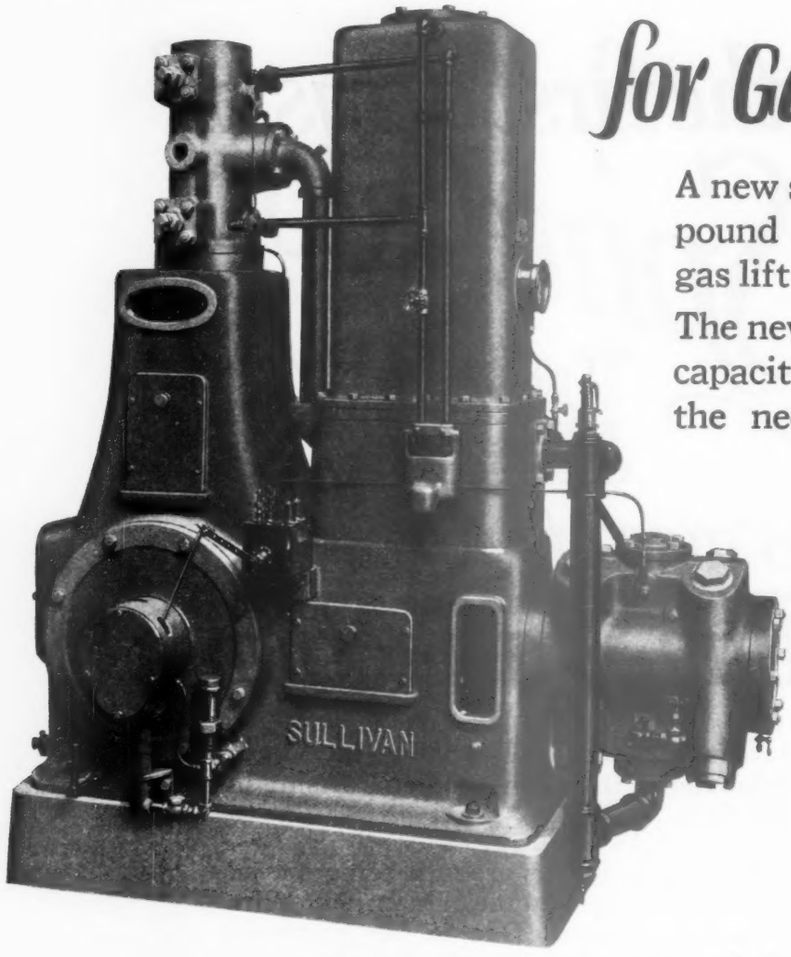

A new special series of Sullivan Angle Compound Compressors has been designed for gas lift and air lift oil pumping.

The new compressors give you a range of capacities and pressures exactly suited to the needs of the oil field, for increasing pumpage by putting pressure on the sands. They embody all of the features which have made Angle Compound Compressors popular for many years.

One of the new Angle Compounds. Its displacement capacity is 14,000 cu. ft. of gas per hour, and it is good for 750 lbs. pressure. This particular machine is only 6 ft. 10 in. long, 3 ft. 10 in. wide, and 6 ft. 8 in. high.

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DEPENDABILITY Angle Compound Compressors have been used extensively in many industries, for more than 15 years. Freedom from vibration, positive force-feed lubrication, long-life "Wafer" Valves, and all around ruggedness and simplicity of parts make these machines trouble-free and dependable.

The cylinders and piping are arranged to allow condensed gasoline to be drawn out of the machine readily. The Frame and bearings are extra rugged, to stand the over-load conditions, and severe service frequently encountered in oil field work.

ECONOMY Angle Compound Compressors are economical not only in power, but in installation cost—a big item in oil field service. The compact balanced angle design frequently saves hundreds, or even thousands of dollars in foundations, floor space, and freight. If desired, you can operate the Compressor on timber skids, saving the cost of concrete foundations.

Multi-step load control, gives minimum power consumption at any partial load.

FLEXIBILITY Angle Compound Compressors can be installed in pairs, with a single motor driving two compressors. Both compressors can be operated alone at full efficiency, whenever the demand falls to less than half of the capacity of the twin unit.

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CONTINENTAL

Crude Oil Price Changes First Half 1927

ARKANSAS-NORTH LOUISIANA

Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer (La.) and El Dorado, Ark.

	Jan. 1	*Feb. 22	**Feb. 24	‡Mar. 5	Mar. 14
Below 28	†$1.40	†$1.30	$1.25	$1.20	$1.10
28 to 28.9	1.50	1.35	1.35	1.23	1.12
29 to 29.9	1.55	1.39	1.39	1.26	1.14
30 to 30.9	1.60	1.43	1.43	1.29	1.16
31 to 31.9	1.65	1.47	1.47	1.32	1.18
32 to 32.9	1.70	1.51	1.51	1.35	1.20
33 to 33.9	1.75	1.55	1.55	1.38	1.22
34 to 34.9	1.80	1.59	1.59	1.41	1.24
35 to 35.9	1.85	1.63	1.63	1.44	1.26
36 to 36.9	1.90	1.67	1.67	1.47	1.28
37 to 37.9	1.95	1.71	1.71	1.50	1.30
38 to 38.9	2.00	1.75	1.75	1.53	1.32
39 to 39.9	2.05	1.79	1.79	1.56	1.34
40 to 40.9	2.10	1.83	1.83	1.59	1.36
41 to 41.9	2.15	1.87	1.87	1.62	1.38
42 to 42.9	2.20	1.91	1.91	1.65	1.40
43 to 43.9	2.25	1.95	1.95	1.68	1.42
44 to 44.9	2.30	1.99	1.99	1.71	1.44
45 to 45.9	2.35	2.03	2.03	1.74	1.46
46 to 46.9	2.40	2.07	2.07	1.77	1.48
47 to 47.9	2.45	2.11	2.11	1.80	1.50
48 to 48.9	2.50	2.15	2.15	1.83	1.52
49 to 49.9	2.55	2.19	2.19	1.86	1.54
50 to 50.9	2.60	2.23	2.23	1.89	1.56
51 to 51.9	2.65	2.27	2.27	1.92	1.58
53 and above	2.70	2.31	2.31	1.95	1.60

Major companies posting are:
Magnolia Petroleum Co., Pine Island (Caddo), Haynesville, Bull Bayou and El Dorado.
Standard Oil Co. (La.) and Gulf Refining Co., all fields.
Atlantic Oil Producing Co., Homer, Haynesville and West El Dorado.
The Texas Company, Caddo, Bull Bayou and Crichton.
Louisiana Oil Refining Corp., all fields.

*Magnolia Petroleum Co., The Texas Company, Standard Oil Co. and other companies changed on February 24. Magnolia Petroleum Co. prices effective in Louisiana only, extending to El Dorado Field February 25 with reduction in below 28 gravity crude to $1.35.

‡The Texas Company only. Met by Magnolia Petroleum Co. March 7, and other companies March 8.

**Standard Oil Co. and Gulf Refining Co. met by Magnolia February 25.

†Magnolia Petroleum Co. only.

Smackover—	Jan. 1	*Feb. 24	**Mar. 8	†Mar. 16
Below 24	$1.10	....	....	$1.00
24 to 24.9	1.35	$1.25	....	....
25 to 25.9	1.40	1.25	....	....
26 to 26.9	1.45	1.25	....	....
27 and above	1.50	1.25	....	....
24 to 27.9	....	....	$1.25	1.15
28 to 28.9	....	....	1.28	1.17
29 to 29.9	....	....	1.31	1.19
30 and above	....	....	1.34	1.21

*Posted by Standard Oil Co., The Texas Company, Gulf Refining Co. and Atlantic Oil Producing Co. and Louisiana Oil Refining Corp. Met by Magnolia Petroleum Co. February 25.

**Atlantic Oil Producing Co. and Louisiana Oil Refining Corp. only.

†Atlantic Oil Producing Co. and Louisiana Oil Refining Corp. Other companies followed cut on below 24 gravity crude March 17 but continued posting of $1.25 for crude above 24 gravity. Magnolia price on crude above 24 gravity, effective March 16, $1.15.

	Jan. 1	Feb. 24	Mar. 15	Mar. 17
Cotton Valley	$1.20	$1.10	....	$1.00
Bellevue	1.40	1.25	....	....
Urania	1.10	....	$1.00	....
Calion	1.10	....	....	$1.00

Cotton Valley: Standard Oil Co., Magnolia Petroleum Co. and Louisiana Oil Refining Corp.
Bellevue: Standard Oil Co., Gulf Refining Co. and Louisiana Oil Refining Corp.
Calion (East El Dorado): Gulf Refining Co.
*Louisiana Oil Refining Corp. and Magnolia Petroleum Co., Standard Oil Co., March 17.

Stephens—	Jan. 1	Feb. 11	Feb. 24	Mar. 8	Mar. 14
Below 28	$1.30	$1.30	$1.10	....	$1.00
28 to 28.9	1.40	1.40	1.20	$1.13	1.02
29 to 29.9	1.45	1.45	1.24	1.16	1.04
30 and above	1.50	....	....	....	....
30 to 30.9	....	1.50	1.28	1.19	1.06
31 to 31.9	....	1.55	1.32	1.22	1.08
32 and above	....	1.60	1.36	1.25	1.10

Posted by Atlantic Oil Refining Corp. and Louisiana Oil Refining Corp.

ROCKY MOUNTAIN FIELDS

Salt Creek (Wyo.) Midwest Refining Co. Gravity—	Jan. 1	Feb. 22	Mar. 5	Mar. 12
28 to 28.9	$1.50	$1.35	$1.23	$1.12
29 to 29.9	1.55	1.39	1.26	1.14
30 to 30.9	1.60	1.43	1.29	1.16
31 to 31.9	1.65	1.47	1.32	1.18
32 to 32.9	1.70	1.51	1.35	1.20
33 to 33.9	1.75	1.55	1.38	1.22
34 to 34.9	1.80	1.59	1.41	1.24
35 to 35.9	1.85	1.63	1.44	1.26
36 to 36.9	1.90	1.67	1.47	1.28
37 and above	1.95	1.71	1.50	1.30

	Jan. 1	Feb. 23	Mar. 7	Mar. 12
Rock Creek (Wyo.)	$1.85	$1.62	$1.42	$1.25
Big Muddy	1.85	1.62	1.42	1.25
Mule Creek	1.45	1.30	....	*1.10
Grass Creek light	2.00	1.75	1.55	1.33
Grass Creek heavy	.90	....	....	....
Elk Basin	2.00	1.75	1.55	1.33
Lance Creek	2.00	1.75	1.55	1.33
Poison Spider	1.00	....	....	....
Notches	.65	....	....	....
Rex Lake	1.25	1.10	....	....
Osage	2.00	1.75	1.55	1.33
Lost Soldier	1.60	....	....	.95
Greybull-Torchlight	2.00	....	....	1.33
Hamilton Dome	1.35	....	....	.85
Cat Creek (Mont.)	2.00	1.75	1.55	1.33
Sunburst	1.35	....	....	....
Artesia (N. M.)	1.65	1.40	1.20	1.00
Hog Back	2.45	2.20	2.00	1.38

*Posted May 13 by Ohio Oil Co., and May 1 by Midwest Refining Co.

Note: Rock Creek, Big Muddy, Mule Creek, Grass Creek light and heavy, Elk Basin, Lance Creek, Rex Lake, Sunburst and Artesia posted by Ohio Oil Co.; all others and Grass Creek light posted by Midwest Refining Co.

CANADA

Imperial Oil Co., Ltd.	Jan. 1	Feb. 23	Mar. 7	Mar. 14
Oil Springs	$2.68	$2.48	$2.31	$2.18
Petrolia	2.61	2.41	2.24	2.11

EASTERN STATES

Joseph Seep Purchasing Agency

	January 1	January 14	February 19	February 23	March 2	March 7	March 16	April 13
Pa. Grade Oil in N. Y. Transit Lines (N. Y.)	$3.15	$3.40	....	$3.25	....	$3.15	....	$2.90
Bradford Oil in National Transit Lines (Pa.)	3.15	3.40	....	3.25	....	3.15	....	2.90
Pa. Grade Oil in National Transit Lines (Pa.)	3.05	3.30	....	3.15	....	3.05	....	2.80
Pa. Grade Oil in Southwest Pa. Lines (W. Va.)	3.05	3.30	....	3.15	....	3.05	....	2.80
Pa. Grade Oil in Eureka Lines (Pa.)	3.00	3.25	....	3.10	....	3.00	....	2.75
Pa. Grade Oil in Buckeye Lines (Ohio)	2.80	3.10	....	2.95	....	2.85	....	2.60
Cabell Grade Oil in Eureka Lines (W. Va.)	2.10	2.10	$1.90	....	$1.70	1.55	$1.40	....
Corning 25-cent Grade Oil in Buckeye Lines (Ohio)	2.25	2.25	....	†2.05	1.85	‡1.65	**1.55	††1.45
Corning 35-cent Grade Oil in Buckeye Lines (Ohio)	2.15	2.15	....	†1.95	1.75	‡1.55	**1.45	††1.35
Somerset Medium in Cumberland Lines (Ky.)	2.20	2.20	2.00	....	1.80	1.65	1.50	....
Somerset Light in Cumberland Lines (Ky)	*2.35	2.35	2.00	....	1.80	1.65	1.50	....
Ragland Grade Oil in Cumberland Lines (Ky)	.95	.95	....	....	....	....	....	....
Keiseter (Pa.)	1.80	1.80	1.60	....	1.40	1.25	....	1.10

*On January 31 the two grades of Somerset oil were merged and the light grade took the same prices as the medium ($2.20).

†Effective February 24. ‡Effective March 8. **Effective March 17. ††Effective April 18.

NO NEW FIELDS IN CENTRAL TEXAS

(Continued from Page 117)

sand barrels but soon went dead. The pay sand was found at 3,067-70 feet. Later deepened to 3,077 feet it found black lime and swabbed 60 bbls. During May this well averaged 63 bbls. and during June 85 bbls. The States Oil Corp. drilled a 3,521-foot hole 600 feet southwest of this well.

The Ramsower Pool of northern Eastland County was discovered last year but produced some good wells this year. McLester Oil Corp.'s No. 1 Thorp was the best producer out of four completed up to June 30. It flowed 50 bbls. an hour at 3,800-02 feet.

In Coleman County, Magnolia Petroleum Co.'s No. 1 Gray, located in the Mark Izod Survey No. 172, made 50 bbls. at 2,470-74 feet. This well was completed March 30.

In Callahan County, Drew, Beams & Kingwood's No. 1-B Jackson, Section 14, E. T. R. R. Survey, about 6 miles north of Baird, opened a shallow pool May 26. It made 15 bbls. at 914-19 feet, total depth 930 feet.

Five miles west of Cross Plains, Brown & Co.'s No. 1 Edwards, in Section 99 of the Comal County School land, opened a small area a mile or so south of the Baum Pool. It was completed May 19 for 150 bbls. following a 25-quart shot at 1,628-47 feet. There are now six producers in this pool and they averaged 230 bbls. daily all together during June. Six wells are drilling in the West Cross Plains area.

Deep Oil in Callahan

The deepest oil in Callahan County was discovered about May 15 when Empire Gas & Fuel Co.'s No. 1 Johnson, in Section 146, G. H. & H. Survey, started making a little oil with 25,000,000 feet of gas at 4,145 feet. Early in June this well was opened up and flowed 400 bbls. of net oil along with 20 per cent water in 15 hours. Rock pressure was 1,450 pounds. It is generally regarded as Ellenburger lime production and has not created much excitement.

A few exceptionally large wells were completed in the South Bend Pool of Young County, one in particular having flowed 6,600 bbls. This was R. C. Stovall's No. 5 fee. It came in April 11, and the depth was 3,896-3,900 feet.

Red Bank Oil Co., also obtained a good producer in its No. 4 Parrott, in the Masters Pool of Throckmorton County, flowing 100 bbls. an hour at 3,909-27 feet. Both of these areas were largely disappointing, however.

In Young County, Holbrook & Woods opened a small pool with their No. 1 Davis, in the center of their 51-acre tract out of the SW, Section 1,395, T. E. & L. Survey. It made 26 bbls. at 888-98 feet.

CALIFORNIA

*Standard Oil Co.-Union Oil Co.

Gravity—	Seal Beach Fullerton Long Beach Hunt. Beach Richfield Rosecrans-Dominguez Torrance-Inglewood (1) Jan. 1	Apr. 1	Whittier La Habra Montebello (2) Jan. 1	Apr. 1	Kern River Newhall-McKittrick Midway Sunset Elk Hills Lost Hills Belridge (3) Jan. 1	Apr. 1	Coyote (4) Jan. 1	Apr. 1	Santa Fe Springs (5) Jan. 1	Apr. 1	Coalinga (6) Jan. 1	Apr. 1	Wheeler Ridge (7) Jan. 1	Apr. 1	Santa Maria Ventura Sal. Lake (8) Jan. 1	Apr. 1
14°	.85	.85	.85	.85	.75	.75	.85	.85	....	....	.75	.75	.75	.75	.85	.85
15°	.87	.85	.85	.85	.75	.75	.85	.85	....	....	.75	.75	.75	.75	.85	.85
16°	.90	.85	.85	.85	.75	.75	.85	.85	....	....	.75	.75	.75	.75	.85	.85
17°	.94	.85	.85	.85	.75	.75	.85	.85	....	....	.75	.75	.75	.75	.85	.85
18°	.98	.85	.86	.85	.75	.75	.86	.85	....	....	.75	.75	.75	.75	.85	.85
19°	1.04	.85	.87	.85	.75	.75	.87	.85	....	....	.75	.75	.75	.75	.85	.85
20°	1.10	.85	.89	.85	.82	.77	.90	.85	.89	....	.79	.76	.78	.76	.90	.85
21°	1.16	.86	.91	.85	.90	.79	.98	.86	.91	.85	.86	.77	.81	.77	.97	.85
22°	1.22	.87	.94	.85	1.00	.81	1.06	.87	.94	.85	.93	.78	.85	.78	1.04	.86
23°	1.28	.88	.97	.85	1.11	.82	1.14	.88	.97	.85	1.00	.79	.89	.79	1.11	.86
24°	1.34	.89	1.01	.85	1.22	.85	1.22	.89	1.02	.85	1.07	.80	.93	.80	1.18	.86
25°	1.40	.90	1.05	.86	1.33	.87	1.30	.90	1.08	.86	1.14	.81	.97	.81	1.25	.86
26°	1.46	.92	1.09	.87	1.44	.89	1.38	.91	1.16	.87	1.21	.83	1.01	.82	1.32	.87
27°	1.52	.94	1.13	.88	1.55	.91	1.46	.92	1.24	.88	1.28	.85	1.05	.83	1.39	.88
28°	1.58	.96	1.17	.89	1.66	.93	1.54	.93	1.32	.89	1.35	.87	....	....	1.46	.89
29°	1.64	.98	1.21	.90	1.77	.96	1.62	.94	1.40	.91	1.42	.89	....	....	1.53	.91
30°	1.70	1.00	1.25	.91	1.88	.99	1.70	.95	1.48	.93	1.49	.91	....	....	1.60	.93
31°	1.76	1.03	....	....	1.99	1.02	....	....	1.60	.95	1.56	.93	....	....	1.67	.95
32°	1.84	1.06	....	....	2.10	1.05	....	....	1.72	.97	1.63	.95	....	....	1.73	.97
33°	1.92	1.09	....	....	2.21	1.08	....	....	1.84	.99	1.70	.97	....	....	1.79	.99
34°	2.00	1.12	....	....	2.32	1.11	....	....	1.96	1.01	1.77	.99	....	....	1.85	1.01
35°	2.08	1.15	....	....	....	....	....	....	2.08	1.03	1.84	1.01	....	....	1.92	1.03
36°	2.16	1.18	....	....	....	....	....	....	2.16	1.06	....	....	....	....	....	1.06
37°	2.24	1.21	....	....	....	....	....	....	2.24	1.09	....	....	....	....	....	1.09
38°	2.34	1.24	....	....	....	....	....	....	2.34	1.12	....	....	....	....	....	1.12
39°	2.44	1.27	....	....	....	....	....	....	2.44	1.15	....	....	....	....	....	1.15
40°	2.54	1.30	....	....	....	....	....	....	....	....	....	....	....	....	....	....
41°	2.64	1.33	....	....	....	....	....	....	....	....	....	....	....	....	....	....
42°	2.74	1.36	....	....	....	....	....	....	....	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 35 degrees.

FEW NEW POOLS WERE OPENED IN KANSAS

(Continued from Page 114)

the granite ridge, and the territory along what is assumed to be the axis of this ridge has been the scene of a very extensive core drilling campaign by companies who, attracted by the success of the Roxana, would like to find another Churchill Pool.

Greenwood County Slowed Up

The Golden Lane region of Greenwood County is a part of the state which witnessed a slight slowing up of activity. While this section still has a good output, the wells discovered now have a smaller initial output than they did one year ago, and principal activity is confined to attempts to find territory between the old pools which might have good prospects for additional production. In point of operation, Greenwood still leads, and there were 193 wells completed within the borders of that county the first half of the year.

New Lost Springs Pool

The Lost Springs district of Marion County has been in the limelight due to the discovery well drilled by Harwood & Winters in Section 21-17-4 which found a sand at a depth of 2,800 feet productive, but uncovered a very light well. The discovery well is reported to have flowed 40 bbls. the first 12 hours, and later increased its yield to 200 bbls. daily. One of the surprises of this region was uncorked when the offset well drilled by Phillips Petroleum Co. and others found the same sand about 100 feet lower and began flowing at the rate of 1,000 bbls. daily. This has greatly stimulated interest in the territory, and has improved the Marion County region in the opinion of the geologists.

Chase County, which promised much during the latter part of 1926, has been more or less of a disappointment, and furnished very little news of an interesting nature. Only 21 wells were drilled within its borders in the period covered by this review; and they furnished only 50 bbls. of new production, and eight dry holes with 11 gas wells to lower the number of failures.

Rooks County in Oil Column

A novel note in field exploration was struck when the Vickers Petroleum Co. and others interested in a large block of acreage in Rooks County decided to use the core drill after an oil well was found. The first well was drilled in the SW cor. SE Section 11-19-16w, and made 10 bbls. an hour from sand 3,257-61 feet. This well is located 20 miles northwest of the Russell Pool in Russell County, and is one of the most important wells in the state at present as it will have a decided bearing upon the future of the land in a part of the state which has long been very lightly held as far as oil possibilities are concerned.

The unusual feature of the Rooks County block of leases is that after the well was drilled into the sand, the owners of the well met with the owners of various leases surrounding the original block, and determined upon a plan of core drilling the entire block consisting of about 35,000 acres of leases. The expense of this exploration will be apportioned among the lease holders according to their respective amounts of acreage.

Oil Near Wichita

The finding of oil within 6 miles of the city of Wichita in Sedgwick County disturbed the peace and quiet of a region which has been the stronghold of agriculture for many years. The Marland Oil Co. and the Roxana Petroleum Corp.'s No. 1 Schmitz, NW cor. SW SW Section 5-28-1w, in Sedgwick County, found the Mississippi lime at 3,395 feet and penetrated it 3 feet. The well is good for 100 bbls. as it stands now, and may be drilled deeper.

The Oxford, Sumner County, townsite drilling activity has been revived this spring, and the Roxana Petroleum Corp., which seems to dominate the new discoveries in the Kansas fields, has two good wells upon the townsite. Both wells are good for a daily output between 180 and 200 bbls.; and their oil has started legal complications, for the city authorities have decreed that town lot drilling is subjected to several restrictions to which the oil companies object. The producing sand was found at 3,100 feet, and there are 16 active drilling operations under way.

The table showing the results of the first half of the year in Kansas is given below. It shows that out of 770 wells drilled, 399 or 51.81 per cent were producers; 331, or 42.98 per cent, were dry and abandoned; and 40, or 5.10 per cent, were completed as gas wells. These figures compare with the 1926 results unfavorably for in the first half of that year, 1,209 wells were drilled; and 765, or 63.27 per cent, were producers; while 390, or 32.25 per cent, were dry; and 54, or 4.46 per cent, were completed as gas wells.

Kansas Wildcats

The Rooks County strike made in June by Vickers Petroleum Co. and others is the most signal wildcat development for Kansas this year. The well drilled in Section 11-19-6w made 10 bbls. an hour from sand found 3,297 feet, and is responsible for the adjoining country being tested out by the core drill.

If good production is found around the first well, it means that the north central and northwestern parts of the State will be thrown open to the drill. The Rooks County well is 20 miles northwest of Russell County.

Kansas Summary Semiannual 1927

County—	Comp.	Prod.	Dry	Gas
Butler	128	9,488	42	0
Cowley	74	4,872	21	11
Chautauqua-Elk	51	5,362	15	4
Greenwood	193	8,139	85	2
Lyon	25	1,215	16	0
Marion	22	1,262	16	0
Mitchell	1	0	1	0
Russell	12	589	7	0
Woodson	28	2,550	9	3
Barber	2	0	1	1
Chase	21	50	8	11
Coffey	6	65	4	0
Harper	2	0	2	0
Morris	3	0	2	1
Rice	17	2,761	6	0
Sumner	55	24,050	17	1
Kingman	6	0	6	0
Sedgwick	4	0	4	0
Wilson	2	0	2	0
McPherson	3	0	2	1
Edwards	1	0	1	0
Osborn	1	0	1	0
Reno	5	150	4	0
Miami	68	1,330	42	0
Harvey	2	0	2	0
Saline	1	0	1	0
Allen	8	33	2	5
Anderson	11	662	3	6
Neosho	3	12	0	0
Montgomery	7	122	1	0
Bourbon	1	0	1	0
Franklin	4	14	3	0
Dickinson	2	0	2	0
Barton	1	0	1	0
Totals	770	62,726	331	40

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	134	10,966	60	5
February	114	8,311	55	6
March	151	11,427	62	6
April	154	13,832	58	8
May	105	11,501	40	6
June	112	5,689	56	9
Totals	770	62,726	331	40
First half 1926	1,209	88,401	390	54
Difference	439	25,675	59	14
First half 1926	864	107,407	286	45

VERY POOR HALF YEAR IN AREA THAT YET PROMISES BIG THINGS

By Special Correspondent

A well in Limestone County which had an initial production of 1,800 bbls. was the sole completion that turned out to be a commercial producer in the first half of 1927, in east central Texas.

One oil well, 1 gas well and 39 dry holes were the sum total of results in a territory wherein perhaps more money has been spent for leases and geological work with no return than in any other territory in the vast State of Texas.

The only real stir in the first half of the year was that caused by the sensational but very brief performance of a test drilled by the Humble Oil & Refining Co. on the Elliott & Clark lease, Michael Windsor Survey, 14 miles west of the town of Jacksonville. This well which found oil in a salt dome at a depth of 3,847 feet, looked for a few hours like an 8,000 or 10,000-bbl. producer, but it was pinched in to about 70 bbls. an hour and then shut in altogether to await the erection of tanks. When opened it quickly went to salt water and up to the close of the half year a crew was working over the hole trying to make a commercial well of it. It is not listed among the completions for the first six months. The Humble Oil & Refining Co. owned 14,000 acres around the well. While it was shut in a leasing campaign of gigantic proportion was staged in several counties surrounding Cherokee, and geophysical crews of seismographers together with accompaying explosive experts "shot" all the country thereabouts in search of other inland salt domes, many of which are believed to have been discovered, as large sums were spent in leases by a dozen companies following the costly scientific work of the geologists.

Little new drilling was started, however, and as a result there were only 18 drilling operations (some of them shut down) in the territory at the close of the half year.

Hunt for Deeper Pays

Efforts to find deeper sands in Limestone and Navarro Counties were unfruitful in the first half. Several tests went below the Woodbine trying to locate the Edwards lime pay or gas or oil in the even deeper Trinity, but a few of the dry holes were tests drilled along the Mexia fault trying to find new pools like Mexia, Powell and Wortham, in Woodbine sand.

Eleven counties are listed in the completion report, dry holes having been drilled in Limestone, Navarro, Anderson, Ellis, Cherokee, Franklin, Freestone, Henderson, Kaufman, Fannin and Falls Counties.

In the first half of last year there were 49 completed wells of which 34 were dry and 4 were gas wells, and the initial production of the 11 oil wells was only 2,468 bbls. In the same period in 1925, 530 wells were completed of which 388 were oil wells, 127 were dry and 15 were gas wells. The 388 oil wells had an initial production of 364,529 bbls. This shows to what extremes the east central territory has come in the course of a couple of years.

Enormous Per Acre Output

The Mexia fault pools have been great producers of oil and as a general field there have been few in the world that have exceeded it in production per acre. Powell, a pool of only 2,612 acres, or the equivalent of a little more than four geographical sections, produced up to June 30 of this year, 94,629,014 bbls., or an average of 36,228 bbls. per acre. Mexia with 3,704 acres or about 5.8 sections of land produced 82,338,417 bbls., or an average of 22,230 bbls., while Wortham with 715 acres of producing territory or less than a section and a half, produced 20,274,184 bbls., or 28,357 bbls. to the acre. Richland, composed of 240 acres, produced 6,005,617 bbls., or an average of 25,023 bbls. per acre. The four pools composed of only 7,271 acres have produced 203,247,232 bbls., or an average of 27,956 bbls. per acre. The Currie Field of 375 acres, with a production up to June 30 of this year of 5,487,762 bbls., averaged 14,901 bbls. per acre. The Nigger Creek Pool, west of Mexia, which was for a time believed to be another such pool as Mexia and Powell, disappointed the hopes of those interested but nevertheless it produced 2,787,955 bbls. up to the close of June. It was opened in July of last year. It was found to have approximately 167 acres of producing sands and the average for the first year was 16,694 bbls. per acre, which is creditable enough. The production of all the pools in the Mexia fault zone up to June 30, 1927, was 211,522,949 bbls., but there is no reason to believe that the whole east Texas has shown all it possesses in the way of oil. The recent discovery of big production in the Trinity formation in Louisiana is significant. The Trinity underlies a vast expanse of east Texas territory and while nothing has yet been uncovered in Texas there are many who look for gas areas and oil from the deep horizons in that part of the Lone Star State.

The Dry Hole Average

In the past five and one-half years 2,978 wells have been drilled in the east central Texas area from the Red River down to Williamson County and easterly as far as Cherokee County. Of this total 926 have been dry holes. In 1922 an even 300 dry holes were drilled in a vast wildcatting campaign.

An enormous amount of capital is invested in leases and exploration work in counties in which not a drop of oil is being produced, by the Humble, Gulf, The Texas Company, Roxana, Pure, Sun, Marland and other companies, which will not be drilled to any extent until conditions in the industry have improved.

Following is the result of field work in the first half of the year:

EAST CENTRAL TEXAS

Summary of Completions First Six Months of 1927. Completions by County

	Comp.	Prd.	Dry	Gas
Limestone	11	1,800	9	1
Anderson	3	....	3	0
Ellis	1	....	1	0
Cherokee	2	....	2	0
Franklin	2	....	2	0
Freestone	2	....	2	0
Henderson	3	....	3	0
Kaufman	3	....	3	0
Navarro	11	....	11	0
Fannin	2	....	2	0
Falls	1	....	1	0
Total first 6 mos. 1927..	41	1,800	39	1
Total first 6 mos. 1926..	49	2,468	34	4
Difference	8	668	5	3

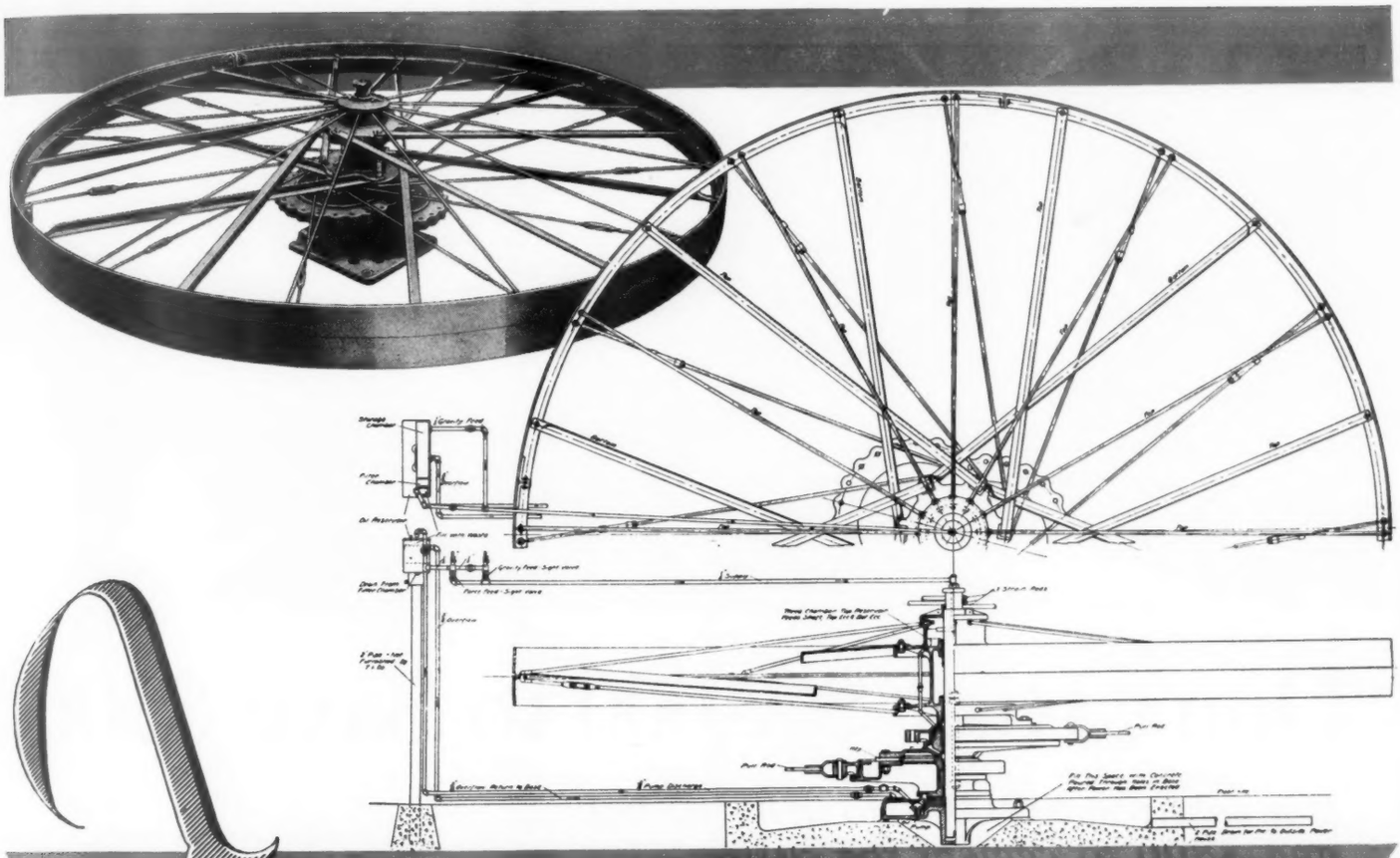
Completions by Months

	Comp.	Prd.	Dry	Gas
January	9	1,800	7	1
February	9	....	9	0
March	1	....	1	0
April	8	....	8	0
May	6	....	6	0
June	8	....	8	0
Total first 6 mos. 1927..	41	1,800	39	1
Total first 6 mos. 1926..	49	2,468	34	4
Difference	8	668	5	3

EAST CENTRAL TEXAS

Daily Average and Monthly Production First Six Months in 1927

		January	February	March	April	May	June	Total
Powell-Corsicana:	Daily average	23,023	22,808	19,957	19,760	16,405	16,418	
	Month	713,713	638,624	618,667	592,800	508,555	492,540	3,564,899
Mexia:	Daily average	12,999	15,913	17,141	13,552	10,613	10,400	
	Month	402,969	445,564	531,371	406,560	329,003	312,000	2,427,467
Nigger Creek:	Daily average	5,762	5,104	3,943	3,266	2,472	2,862	
	Month	178,622	142,912	122,233	97,980	76,632	85,860	704,239
Currie:	Daily average	824	803	791	676	723	693	
	Month	25,544	22,484	24,521	20,280	22,413	20,790	136,032
Richland:	Daily average	1,136	1,140	1,023	994	889	861	
	Month	35,030	31,920	31,713	29,820	27,559	25,830	181,872
Wortham:	Daily average	3,990	4,168	3,679	3,575	3,286	3,190	
	Month	123,690	116,704	114,049	107,250	101,866	95,700	659,259
First half 1927:	Daily average	47,728	49,936	46,534	41,823	34,388	34,424	42,396
	Month	1,479,568	1,398,208	1,442,554	1,254,690	1,066,028	1,032,720	7,673,768
First half 1926		1,928,851	1,759,548	1,822,614	1,763,970	1,703,853	1,557,780	10,536,616
First half 1925		6,376,886	4,518,416	4,388,917	4,111,590	3,863,375	3,379,740	27,138,924
First half 1924		4,177,591	4,241,507	5,073,367	4,629,510	4,283,859	3,918,390	26,324,224
First half 1923		2,010,703	1,780,465	1,996,015	1,833,301	1,928,871	2,209,282	11,758,576



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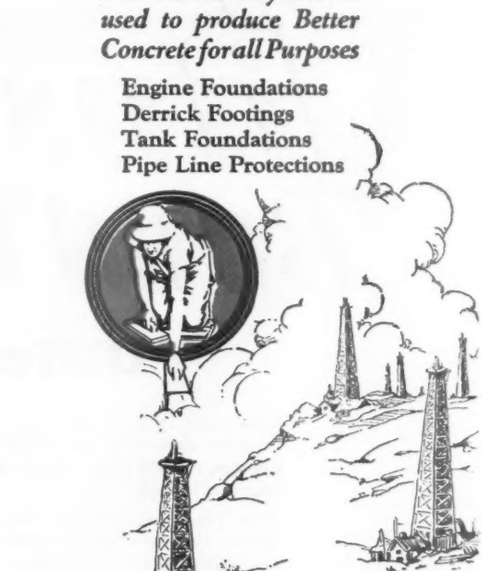


MasterKem

COST OF PIPE LINES TO BE MANY MILLIONS

(Continued from Page 120)

Co. of Houston and the Southwest Gas Co. has been incorporated by J. W. Colvin, Joe E. Colvin and Paul Kayser, all of Houston. The line is being surveyed from the Edna gas field in Jackson County in a straight line northwest to Gonzales in Gonzales County passing Yoakum en route and with a line from Yoakum southwest to Cuero. From Gonzales the line runs northwest to Luling and from Luling north to Lockhart. Franchises have been voted the company in each of these cities. The total length of line projected is approximately 100 miles long. It will be 10-inch.

Southwest Texas Summary

Summary of the pipe lines building or definitely announced or that have progressed to the point where surveys have been made in Southwest Texas are as follows:

Humble Pipe Line Co. oil line 400 miles McCamey to Ingleside 10 and 12-inch, now under construction.

Southern Crude Oil Purchasing Co. oil line from Winkler County to Ingleside, 500 miles, survey made.

Illinois Pipe Line Co., 8, 10 and 12-inch oil line from Yates Field south. Construction started on line from field to Comstock or Del Rio 120 miles.

Rio Grande Valley Gas Co., 10 and 8-inch gas line from Mirando Field to Brownsville 170 miles, construction well advanced.

Southern Gas Co., 35-mile gas line extension from San Antonio to New Braunfels and Seguin announced and survey being made.

Houston Pipe Line Co., 12½ and 20-inch gas line announced to parallel present line from Mirando Field to Houston 313 miles.

Houston Gulf Gas Co. extension 35 miles south from Refugio gas field to White Point, construction started.

Southwest Gas Co. gas line from Edna Field in Jackson County to Lockhart approximately 100 miles, survey being made.

New North Texas Lines

Little pipe line construction work was started in North Texas during the first half of 1927. Sinclair Pipe Line Co. completed 32 miles of 4-inch line from the Hooser Pool to the Muenster Pool, both in Cooke County. It was completed July 5 with pump stations at both ends of the line sending 4,500 bbls. daily through it.

Continental Oil Co. built a 40-mile 4-inch line from the Nocona Field in Montague County to the company's refinery at Wichita Falls. A station was built at Nocona and a booster station about the center of the line. It has a capacity of approximately 3,000 bbls. daily.

Ozark Pipe Line Co. is building a 4-inch line from a point near the Hooser Pool to near the Muenster Pool. The line will be extended north to Healdton, Okla., to tie into the Ozark company's main line system in Oklahoma. That line will have a capacity of 4,500 bbls. daily.

After years of idleness, the Pierce Pipe Line Co.'s 6-inch line from Healdton, Okla., to Fort Worth, was put in operation early in May. Magnolia Pipe Line Co. leased the line and is running crude through it.

New Lines in California

No important pipe line construction work was undertaken in California during the first half of 1927 due to the fact that neither of the two fields discovered during that period has passed beyond the exploratory stage. The two new fields referred to are Goleta in Santa Barbara County and Round Mountain in Kern County, the former yielding a high gravity oil while the latter comes in the category of low gravity fields. Neither of these two districts is expected to result in big production during the rest of this year and hence there is some doubt as to whether either will be connected up with pipe line transportation within the next several months. The Seacliff or Rincon area in Ventura County, located approximately 15 miles west of the prolific Ventura Avenue Field, looks as though it will require at least one pipe line before the close of 1927, although this district is as yet unproven. The outlook, however, is very promising for production and if the Chanslor-Canfield Midway Oil Co. is successful in opening up a new field at this point, immediate steps will undoubtedly be taken to link up this section with some of the major trunk lines which extend from Bakersfield northward to San Francisco and southward to Los Angeles. The Pan American is reported to have made an offer to accept this oil, but so far nothing definite has been announced by either the prospective buyer or seller. There is a possibility of course that preliminary deliveries of oil will be made by water pending the laying of permanent pipe lines.

85-Mile Gasoline Line

The only actual pipe line construction work of consequence done during the past few months was the Shell's 6-inch gasoline line from the Ventura Avenue Field to its Dominguez refinery near Los Angeles harbor in southern California. This resulted in the laying of approximately 85 miles of line and gave the Shell an outlet for its casinghead production in the Ventura Avenue Field, this product heretofore being shipped out in tank cars. Simultaneous with the acquisition of rights of way for this line the Shell secured permission to lay a 6-inch crude line at a later date, depending upon future conditions. The development of production in the town lot or Alamitos Heights section of the Seal Beach Field naturally resulted in the extension of existing pipe line facilities but the opening up of this area to the drill did not result in the laying of any considerable amount of new pipe. The Standard recently extended its Seal Beach line into the Alamitos Heights section but this involved less than 1 mile of construction. The Richfield extended its 6-inch Seal Beach line into Alamitos Heights about 90 days ago but this extension was also of a minor character involving as it did less than 2 miles of pipe line construction. The Pan American, California Petroleum, Union, Associated and Shell also completed minor extensions into this section of the Seal Beach Field. The Standard is at present constructing a 6-inch line from Northam Station to Huntington Beach, a distance of approximately 25 miles. This is a gasoline line and will give the company a much-needed outlet for its increasing casinghead production.

Louisiana-Arkansas

Pipe line construction the first six months in the Arkansas-North Louisiana district was confined chiefly to gas lines, and, as the latter half of the year opens work is under way, surveys are being made or plans formulated for several trunk systems. So far as known no crude lines are to be built the remainder of the year and it is not considered likely that any more will be needed other than possible extensions to gathering systems.

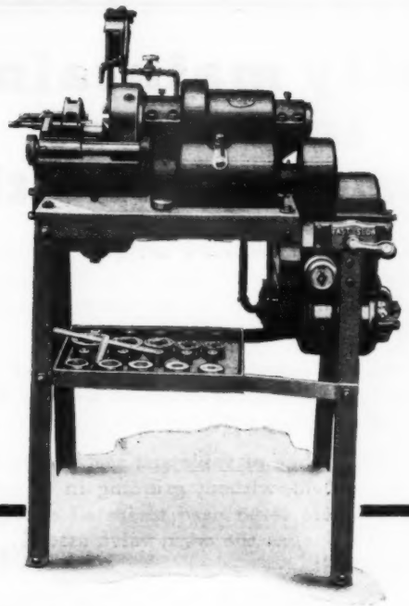
Most Important Gas Line

The most important gas line completed the first half of the year was the Magnolia Gas Co.'s project from the Waskom gas field of western Caddo Parish, Louisiana, and eastern Texas, to Dallas, Texas. While this is not directly in this district it has its eastern terminus at the Latex station near Bethany, La., and draws gas from north Louisiana fields not only Waskom but also other Louisiana fields served by another line of this company extending from the Sarepta Field of northern Webster Parish to Waskom, and thence to Beaumont, Tex.

The Magnolia Gas Co. at present is engaged in laying two feeder lines to the main trunk line from Sarepta to Beaumont and Dallas. One of these is a 12-inch branch from the Pine Island Field of Caddo Parish to connect with the main line at a point near Dixie, La., a distance of 14 miles. The other is a feeder for the main line from the Carterville Field of northern Bossier Parish. The latter will be a 12-inch line making connections with the trunk at Sarepta. 12 miles southeast of Carterville. The Carterville feeder will have a capacity of 75,000,000 feet of gas daily and will be in operation before this is read.

The Magnolia Gas Co. has been very active the past few months in making

(Continued on Page 170)



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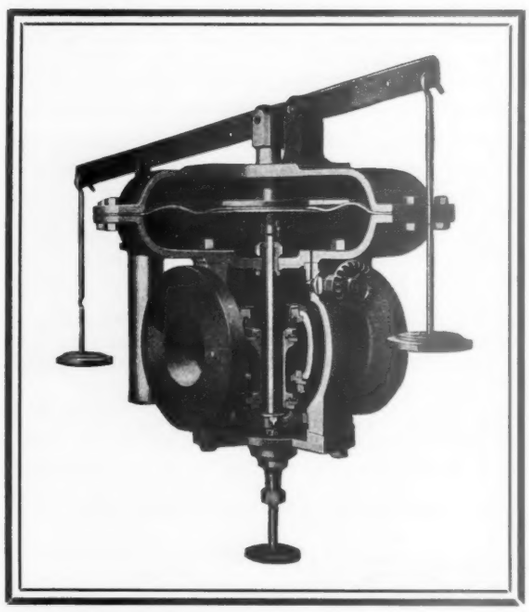

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OLD LOWER SOUTHWEST HAD DULL HALF YEAR WITH FEW FEATURES

By D. S. Wakenight
Staff Correspondent, Eastern Fields

It requires little space and few words to tell what happened in the southwestern division of the eastern fields during the first six months of the current year. From the first day of the year down to the close of the first six months development work was almost featureless. The wells completed were uniformly light and there were fewer of them than during the preceding six months.

No New Pools Discovered

No new pools were discovered and the little done along the line of new discoveries proved fruitless. All, or nearly all, of the work completed was located in defined territory and consisted of routine work, drilling odd locations in old sections. In the three divisions, southwest Pennsylvania, West Virginia and southeast Ohio there were not as many wells completed by 462 as the preceding six months and 92 fewer than in the first half of 1926. The new production was 1,105 bbls. more than in the first half of last year. There were fewer gas wells and fewer dry holes completed than during the same time last year.

The first six months of 1927 showed a continuous decline in new work. At the close of June the three divisions showed a loss of 72 rigs and 85 drilling wells over the status on December 30, 1926. The depression that began the previous year continued through the entire six months and at the close was even more pronounced, making it the longest in the history of the industry.

Market Was Low

During the entire period of six months the market for crude oil, even of the Pennsylvania grade, was too low to make it profitable to develop light territory, consequently, operators discontinued operation, drilling only when and where it was necessary. Titles to leases and lease line had to be protected and some of the larger companies drilled test wells with a view to surrendering the same if they did not prove producing territory. For the reason that it proved barren large amounts of territory were surrendered and the rental discontinued. In the past six months operators have resorted to every expedient to reduce expenses to the minimum.

Pools Defined

All pools in the three divisions are thought to be defined. The little pool in Morris Township, Greene County, has been defined and fully developed. All late completions in the Clay County, West Virginia, pool have come in light pumpers, showing the outer limits of the pool have been reached. The same is true of the Niagara Lime Pool in Guernsey County, Ohio. The Clinton sand territory continues to present an occasional good producer and if it were not for that and the Niagara lime in Jackson Township in Guernsey County, the volume of new production from month to month would be almost negligible.

No Deep Tests Drilling

For the present at least no deep tests are drilling in the eastern fields. The last was the Reserve Gas Co.'s deep test on the Smith Brothers farm in Union district, Harrison County, West Virginia. When down 6,820 feet a fishing job ensued and all efforts to clear the hole proved futile and it has been practically abandoned. If there is a producing formation lower than hitherto known, it has not been discovered and dozens of wells have been drilled with that end in view. Furthermore, it is not all likely that any effort will be made along that line so long as the depression in the industry obtains. It seems to be a physical impossibility to go deeper than some of the deep tests drilled in the past decade.

No Production Changing Hands

Despite the depression and present outlook for the industry, very little producing property is changing hands. Those who would sell are asking more than the conservative investor is inclined to pay. The high asking price for production may be regarded as the owner's confidence in the future of the industry. The asking price per barrel for settled production in the southwestern district of the eastern fields depends largely upon the locality in which it is located and runs from $1,000 to $5,000 a barrel.

There were but four changes in the credit balance market during the first six months. On January 14, the quotation for crude of the Pennsylvania grade in the Southwest Pennsylvania Lines was $3.30. On February 23 it was reduced to $3.15. On March 7 it was dropped to $3.05 and again on April 13 it was reduced to $2.80.

EASTERN FIELDS
Summary of Completed Wells for the First Six Month of 1927

Southwest Pennsylvania

	Comp.	Prod.	Dry	Gas
January	18	181	4	7
February	17	147	4	7
March	12	60	4	5
April	20	300	9	10
May	14	14	5	6
June	23	125	7	10
Total	104	854	33	45
Same period '26	92	1,104	20	44
Difference	12	250	13	1

West Virginia

	Comp.	Prod.	Dry	Gas
January	70	710	13	30
February	65	230	11	40
March	77	145	16	29
April	58	639	8	23
May	66	198	14	33
June	60	208	8	34
Total	396	2,130	70	189
Same period '26	529	2,830	89	244
Difference	133	700	19	55

Southeast Ohio

	Comp.	Prod.	Dry	Gas
January	84	1,202	14	24
February	70	1,308	4	17
March	74	1,804	11	15
April	60	1,555	12	9
May	87	1,344	26	12
June	75	1,026	21	8
Total	450	8,239	88	85
Same period '26	422	6,084	78	64
Difference	28	2,155	10	21

Total of Three Divisions

	Comp.	Prod.	Dry	Gas
Southwest Pa.	104	854	33	45
West Virginia	396	2,130	70	189
Southeast Ohio	450	8,239	88	85
Total	950	11,223	191	319
Same period '26	1,043	10,118	187	352
Difference	93	1,105	4	33

GAS DOMINATED IN THE TEXAS PANHANDLE

(Continued from Page 118)

built the first two lines out of the field. The Lone Star company's line is a 200-mile 18-inch combination welded and coupled line from the Shamrock area in Wheeler County to Petrolia in Clay County. Northern Texas Utilities Co.'s line is a 175-mile 16-inch line from the same field to Wichita Falls.

Empire Gas & Fuel Co. has started construction work on a 400-mile 20-inch line from Panhandle to Kansas City, Mo. West Texas Gas Co., Amarillo, is building a 16-inch, 15-inch and 10-inch line from northeastern Potter County to Slaton in the South Plains area. The line will be 217 miles long and will be in operation by November 1. It is going into a rapidly developing agricultural country. The other line is the Interstate Gas Pipe Line Co.'s 22-inch line from Panhandle to Denver, Colo. It will be approximately 350 miles long and over mountainous country. It is estimated the cost will be $25,000,000 due to the difficult construction problem. Construction work has not been started but it is reported right of way is being bought. The proposed line is the Phillips Petroleum Co.'s proposed 22-inch line from Panhandle to connect with the Oklahoma Natural Gas Co.'s system which the Phillips company recently purchased the controlling interest in.

Many believe that the gas business will surpass the oil business in Panhandle in time. It is estimated by geologists that the proven and potential gas area in the Panhandle covers 2,000 square miles.

Natural Gasoline Production

Natural gasoline production in the Panhandle has kept pace with other developments. During June, 8,308,555 gallons of natural gasoline was produced

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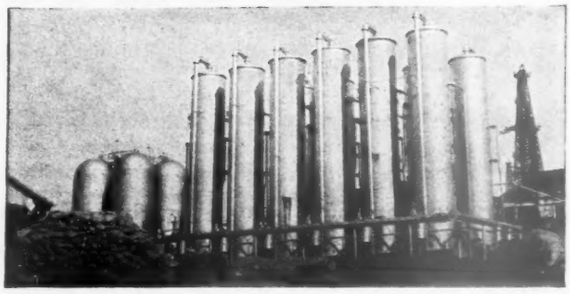

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in that field. Due to the present slump in the market for that product natural gasoline stocks in Panhandle reached 2,130,000 gallons on July 1.

It is estimated the 40 plants in the field have a capacity of 404,000 gallons daily and that a volume of 612,000,000 feet of gas can be handled by those plants daily. Phillips Petroleum Co. is easily the largest producer of natural gasoline in the field as well as the leader among oil producers. The bulk of the natural gasoline is made in Hutchinson County's 25 plants.

While it is not likely in the light of present conditions, many operators are of the opinion that Panhandle's production could be materially increased in a short while. Many old wells could be cleaned and their production doubled in many instances, those operators contend, and there are plenty of undrilled locations in proven territory that could be drilled to boost production.

Wildcatting continues at a fairly rapid pace and considerable interest is being taken in the northwest trend of the field. In the South Plains area south of the Panhandle, various companies have been buying acreage quietly during the last three months of the year but considered as a whole wildcatting is at a low ebb in the field.

TEXAS PANHANDLE
Summary of Completions by Months for the First Half of 1927

Month—	Comp.	Prod.	Dry	Gas
January	101	23,204	5	3
February	74	10,933	7	9
March	80	19,072	5	7
April	110	27,080	7	15
May	90	32,774	4	4
June	77	12,875	6	2
Total	532	125,993	34	40

Completions by Counties

County—	Comp.	Prod.	Dry	Gas
Armstrong	1	0	1	0
Carson	94	25,414	5	7
Collingsworth	1	0	1	0
Gray	64	10,403	4	5
Hansford	1	0	1	0
Hartley	4	0	4	0
Hemphill	1	0	1	0
Hutchinson	318	79,584	4	13
Moore	6	364	1	3
Potter	2	0	2	0
Randall	1	0	1	0
Roberts	2	0	2	0
Sherman	1	0	1	0
Swisher	1	0	1	0
Wheeler	35	7,872	5	12
First 6 mo. '27	532	125,993	34	40
First 6 mo. '26	142	74,909	8	9
Difference	390	50,984	26	31

COST OF PIPE LINES TO BE MANY MILLIONS

(Continued from Page 167)

contracts for gas reserves in the Waskom, Pine Island and Carterville areas and has obtained some important gas rights in addition to some production of its own through the Magnolia Petroleum Co.

The Dixie Pipe Line

The Waskom and Greenwood fields, the eastern terminus of the Magnolia Gas Co.'s Dallas line, also are to be the chief source of supply for another major gas line system to be completed the latter part of the year. This project will include a 22 and 18-inch line to Port Arthur and Houston, Tex., to be laid by the recently organized Dixie Pipe Line Co.

The Dixie Pipe Line Co. is the transportation end of the Dixie Gas & Utilities Co., started only last month by the Moody-Seagraves interests of Galveston and Houston, Tex., as a major gas producing and distributing company. The Dixie Gas & Utilities Co. is a holding company but through its subsidiaries it will distribute gas in many of the principal cities in east Texas along the route of the line to Livingston, Tex., 80 miles north of Houston. At Livingston, the line, which will be 22-inch to this point, will branch into two 18-inch lines, one going to Houston and the other to Port Arthur.

Contracts already have been arranged by this company to deliver gas to large refineries at Port Arthur and the gas supply also will be available as a reserve for Houston. This company, which purchased the Marshall Natural Gas Co. from The Texas Company, already is distributing gas at Marshall, Tex., and Cedar Grove, La., a suburb of Shreveport.

This main line, which also is an east Texas project, is classed with north Louisiana pipe line construction as the operations of the company will be chiefly out of Shreveport. In addition, the project, when completed will connect with the Reserve Natural Gas Co. system over northern Louisiana as the Dixie has acquired a half interest in the Reserve.

As the Dixie Gas & Utilities Co. has been bidding for gas contracts in the new Carterville Field of northern Bossier Parish, it is probable that another line will be built to that field likely through a branch to the Reserve Natural Gas Co.'s line to Webster Parish. The latter would require only from 12 to 15 miles of pipe.

Surveys already are well under way for the Dixie Pipe Line Co.'s main line and the project is expected to be completed by next October. The Hope Engineering & Supply Co., which will lay the pipe, already has representatives in Shreveport and actual work will begin soon. The line will cost $10,000,000 and will include two booster stations at Waskom and Livingston.

Excelsior Pipe Line

This year also will see the Monroe gas field of northeastern Louisiana with another main outlet. The Excelsior Pipe Line Co., affiliated with the Natural Gas Producing Co., of Bastrop, La., has completed surveys for an 18-inch line to Camden, Ark., a distance of around 100 miles. The southern terminus will be at a point near Haile, Union Parish, Louisiana.

Purchase of right of way is under way and actual laying of line should begin around August 1, according to B. M. Biddison, manager of the Natural Gas Producing Co. Laying of the line will be by the Latex Construction Co., an affiliated interest. The line will have a capacity of 75,000,000 feet daily. For the present no booster stations will be required and the gas will go under its own pressure.

Natural Gas Producing Co.

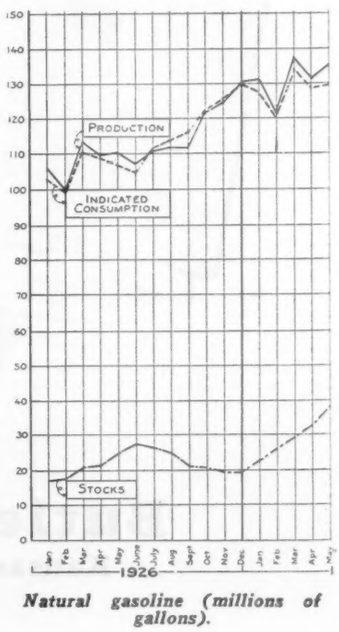
The Natural Gas Producing Co. already has contracts to supply gas to a large paper mill under construction at Camden and it is anticipated that franchises will be arranged with towns along the line. The line will pass through El Dorado and Smackover and as gas in those fields is being diminished rapidly the enormous Monroe gas supply will be an important reserve for towns in that district.

The Natural Gas Producing Co. also has plans under way for an extension of this line to Pine Bluff, Ark., and thence to Memphis, Tenn., but this project probably will not be attempted this year. If carried out, however, it will furnish Memphis with its first natural gas.

Interstate's Extension

Extension of the Interstate Gas Co.'s Monroe-Baton Rouge gas line to New Orleans has been delayed forcibly by floods. All arrangements for the exten-

(Continued on Page 174)



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R. M. Young

Immediate reservation of exhibition space is advised. Approximately 90% of the inside space has already been taken, and outside space sold to date exceeds the total for any previous Exposition. Wire, phone or write INTERNATIONAL PETROLEUM EXPOSITION, J. Burr Gibbons, Gen. Mgr., 108 E. Third St., Tulsa, Okla., U. S. A. Phone 5605.

TULSA, SEPT. 24-OCT. 1

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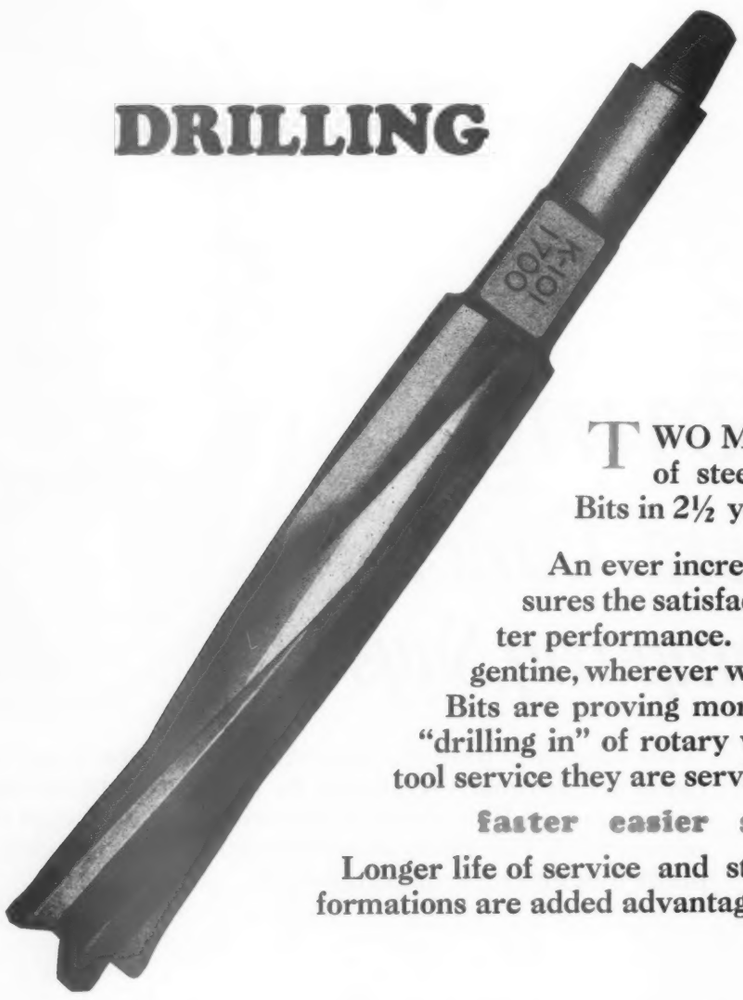

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DEVELOPMENT OF THE MEASUREMENT OF GAS

(Continued from Page 80)

used on displacement meters so that the proper multiplier can be applied to convert each 1,000 or 10,000 cubic feet of volume to the base pressure quantity.

The gauge for recording the volume and pressure is a combination of a recording pressure-gauge and a special meter index equipped with a second pen arm which makes a dash or a continuous looped line, for each 1,000 or 10,000 feet of volume passing the meter, in the allotted space just outside of the pressure graduations on the chart. (It is adapted for use on large capacity displacement and proportional meters only.)

Gauges for meters with a capacity of 20,000 cubic feet per hour are equipped with a 10,000-foot pen arm. A 1,000-foot pen arm is used with small capacity meters.

When in service on the gas line, if the volume of gas passing the meter is increased, the number of dashes or loops an hour is increased and they become shorter. On the other hand, if the volume of gas is decreased, the dashes or loops become fewer and longer.

The volume loops on the edge of the chart enable one to apply the proper multiplier to each unit of volume. This method is much more accurate than the method of averaging the pressure for 24 hours and applying the average multiplier to the daily meter reading.

Invariably the pressure of gas in a pipe line will vary more or less throughout a 24-hour period. As the pressure increases, the multiplier increases, and as the pressure decreases, the multiplier also decreases.

By the aid of this gauge, on which the chart is rotated by a clock, it is possible to tell when the peak load occurs and the maximum rate. Should any breaks occur in the line either ahead of or behind the meter, it is possible to tell the time at which the break occurred; and, should the break be ahead of the meter, the record indicates the volume of gas which passed the meter during the period of the break. This record is of great value in any case of this kind.

Iron Case Meter with Volume and Pressure Gauge

Measurement by Orifice Meter

The orifice meter is a velocity meter or flow meter in which the quantity flowing is equal to the area of the orifice multiplied by the velocity or rate of flow through the orifice. For example, if the rate of flow of a gas or liquid through an orifice 1 square foot in area is 200,000 feet an hour, the quantity passing through the line is 200,000 cubic feet an hour.

Let us suppose that we install a one-inch orifice in a line between a pair of flanges and connect the columns of a U-gauge to two taps in the line—one on the up-stream side of the orifice and the other on the down-stream side of the orifice. If the gas is permitted to flow through the line, the surface of the liquid in the up-stream column will lower and the surface in the down-stream column will rise indicating a difference in the pressures at the taps. As the flow increases, the difference in the pressures (differential) will increase. Let us assume that when the differential is 1 inch of water, that the flow is 300 cubic feet in an hour, and when other orifices of the same dimensions are placed in the line measuring the gas under the same condition, the same rate of flow is obtained. Under these conditions an orifice may therefore be used to measure the rate of flow. If the conditions are changed, the rates will vary.

Thousands of tests have been conducted and the results have been compiled into tables which indicate the effect of varying conditions. In addition other thousands of tests have established certain layouts as being more acceptable than others for purposes of measurement; layouts and designs in which small changes will not materially affect the results if published data be used.

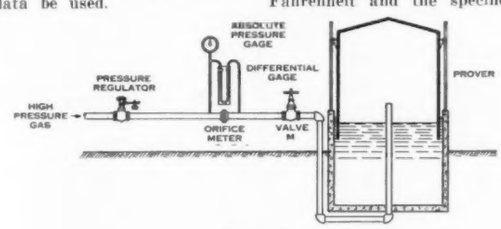

Figure B

The following examples illustrate the fundamental principles of orifice meter measurement and the methods used for determining the value of hourly orifice coefficients (orifice meter constants).

In Figure B, the gas from a high-pressure line flows through a pressure regulator, an orifice meter and valve M, into a prover where it is measured in actual cubic feet by displacement of the bell of the prover. Let us assume that the line pressure at the orifice meter is controlled by the pressure regulator and that the rate of flow is varied by adjusting the opening in the valve M, so that the differential may be varied. Let us also assume that the temperature in the prover is 60 degrees Fahrenheit, and the pressure in the prover is 14.65 pounds absolute (4 ounces above an atmospheric pressure of 14.4 pounds).

If the gas is measured through a 1-inch orifice installed in a 6-inch line, the third column of the following table contains the quantities in cubic feet an hour measured in the prover for various differential readings, h, obtained from taps—one 2½ diameter up-stream and the other eight diameter down-stream—at a constant pressure of 16 pounds absolute, when the flowing temperature is 60 degrees Fahrenheit and the specific gravity of the gas is 0:60.

Differential inches of water h	Pressure pounds absolute P	Quantity cubic ft. an hour Q	√h	Q/√h	√hP	C equals Q/√hP
1	16	1,088	1	1,088	4	272
4	16	2,176	2	1,088	8	272
9	16	3,264	3	1,088	12	272
16	16	4,352	4	1,088	16	272

At a 1-inch differential, 1,088 cubic feet an hour will be measured in the prover; at 4 inches differential, 2,176 cubic feet an hour will pass into the prover; at 9 inches differential, 3,264 cubic feet an hour, etc. The hourly rate (third column) divided by the square root of the differential (fourth column) equals 1,088 (fifth column). Therefore, when the pressure is constant at 16 pounds absolute, the hourly rate of flow of gas into the prover is equal to 1,088 cubic feet multiplied by the square root of the differential.

The following table shows the effect of increasing the absolute pressure, P, at the point of measurement and maintaining the differential constant at 4 inches of water.

Differential inches of water h	Pressure pounds absolute P	Quantity cubic ft. an hour Q	√P	Q/√P	√hP	C equals Q/√hP
4	16	2,176	4	544	8	272
4	64	4,352	8	544	16	272
4	144	6,528	12	544	24	272
4	256	8,704	16	544	32	272

In each example, the quantity per hour, Q, divided by the square root of the absolute pressure, is equal to a constant 544. The flow, therefore, varies as the square root of the absolute pressure; and the hourly quantity in cubic feet is equal to 544 multiplied by the square root of the absolute pressure when the differential is 4 inches.

In these examples when we divide any hourly quantity, Q, by √hP, we obtain a constant, 272, which is known as the hourly orifice coefficient, C. This coefficient is therefore, the quantity in cubic feet an hour which will pass through this orifice at a differential of 1 inch of water at a pressure of 1 pound absolute, under the conditions as stated. (272√1×1=272). Tables containing the values of C for various conditions are published by the meter manufacturers.

If this 6×1 orifice is replaced by another 6×1 orifice in the same setting under the same conditions, the same coefficient C will be obtained. The hourly orifice coefficient of a 6×1 orifice, when the flowing temperature is 60 degrees Fahrenheit and the specific gravity is 0.60, is 272 cubic feet at a base pressure of 14.65 pounds absolute and a base temperature of 60 degrees Fahrenheit. Therefore, 272 cubic feet an hour will pass through an orifice at a theoretical line pressure of 1 pound per square inch absolute at 1 inch differential. At any differential h, and any pressure P, the quantity flowing through the orifice will be equal to 272√hP as long as the other conditions remain the same.

In these examples, all conditions except the differential and pressure remained the same. If any one of the other conditions is changed, the hourly coefficient C will be changed.

If the prover be weighted so that the pressure of the gas in the prover is 14.9 pounds absolute (8 ounces) instead of 14.65 pounds absolute (4 ounces) the displacement of the prover in cubic feet will be less, even though the same weight of gas be measured and the conditions at the orifice remain the same. According to Boyle's law, 2,176 cubic feet at 14.65 pounds absolute equals 2,139 cubic feet at 14.9 pounds absolute. (2,176 ×14.65/14.9=2,139. At a pressure of 14.9 pounds absolute in the prover, the respective quantities which will be measured in the prover can be computed by multiplying Q by 0.9832. (14.65/14.9=0.9832.) Since the hourly coefficient C in each case is equal to Q/√hP, C=267.4 at a base pressure of 14.9 pounds absolute—other conditions remaining the same. (272×0.9832=267.4). The designation of a base pressure indicates the pressure at which the cubic foot is assumed to be a standard, and when stated as a condition upon which the value of a coefficient is determined, it means that if the hourly coefficient be multiplied by √hP, the product will be the number of cubic feet that will be measured by displacement at that pressure in one hour. The tables containing the multipliers for conversion from one base pressure to other base pressures are published in all orifice meter catalogs. They apply for measurement by orifice meters or positive meters. If any coefficient or quantity is determined at a certain base-pressure condition, it can be expressed at any other base-pressure condition by multiplying it by the proper factor.

Coefficients and quantities are generally expressed at an assumed standard temperature condition of 60 degrees Fahrenheit. This conditions is called the base temperature. It means that if the hourly coefficient computed for a base temperature of 60 degrees Fahrenheit is multiplied by √hP, the product will be the number of cubic feet that would be measured by displacement at that temperature in one hour.

It has been proved by experiment that the value of the coefficient C varies inversely as the square root of the specific gravity. The values for measuring gas are usually computed for the condition, specific gravity being 0.60, and in order that the coefficient will apply for the actual specific gravity of the gas being measured, the coefficient is revised by applying the multipliers obtained from the table in orifice meter books.

The value of the coefficient C also varies inversely as the square root of the absolute flowing temperature varies. The values of coefficients for measuring gas are usually computed for an average condition of 60 degrees Fahrenheit. The percentage variation of the absolute temperature is small and in most measurements multipliers are not used as it is assumed that 60 degrees Fahrenheit represents the average condition.

If the taps are changed and made with connections near the flange, the coefficient will be decreased, and instead of obtaining a value of 272 for C, the value of C will be 265.9 for the same conditions.

The coefficients for a great number of orifices have been determined at various conditions by methods similar to those previously outlined. From the results, coefficients have been computed and published for different sets of reference conditions. The coefficients for any orifice at actual conditions of flow, base-pressure, and base temperature for the assumed standard cubic foot may be obtained from the published values by calculation.

Orifice meter measurement assumes that the coefficient for any size of orifice will remain constant for any particular set of conditions and that as the conditions vary, the quantity can be expressed for any condition by the use of multipliers. Experience in thousands of cases has demonstrated that these conclusions are sound.

The quantity measured by an orifice meter in an hour is expressed by the formula: Q=C√hP, in which,

Q=quantity in cubic feet an hour at the base pressure, base temperature and flow conditions upon which the value of the hourly orifice coefficient, C, has been determined.

h=differential in inches of water recorded on the orifice meter chart.

P=line pressure in pounds per square inch absolute. It is equal to the atmospheric pressure plus the gauge pressure which is recorded on the chart.

The values of the hourly orifice coefficient, C, computed for a number of sizes of orifices under specified conditions are contained in the tables published by the manufacturers.

The pressure extensions, √hP, computed for gauge pressures above an atmospheric pressure of 14.4 pounds, have been compiled in a book entitled "Pressure Extensions."

The following examples explain the detailed methods of computing the flow from an orifice meter chart.

Example: Air (specific gravity 1.00) is measured by a 2-inch orifice in a 4-

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618

inch line, at a temperature of 60 degrees Fahrenheit using 2½ and 8-inch pipe diameter connections. The resulting quantity is expressed in cubic feet under the following standard conditions: Base pressure, 14.4 pounds absolute (0 ounces); base temperature, 60 degrees Fahrenheit. The hourly orifice coefficient, C=1,019.4. If the average pressure is 90 pounds gauge and the average differential, h, is 25 inches of water, the pressure extension, $\sqrt{hP}=\sqrt{25(90+14.4)}=51.09$. Quantity for the hour=$C\sqrt{hP}$=1,019.4 ×51.09=52,080 cubic feet.

Example. Gas (specific gravity, 0.60) is measured by a 2-inch orifice in a 4-inch line at a temperature of 60 degrees Fahrenheit, using 2½ and 8-inch diameter connections. The resulting quantity is expressed in cubic feet under the following standard conditions: Base pressure, 14.65 pounds absolute (4 ounces); base temperature, 60 degrees Fahrenheit. The hourly orifice coefficient, C=1,293.7. If the average pressure is 85.6 pounds gauge and the average differential, h, is 16 inches of water, the pressure extension, $\sqrt{hP}=\sqrt{16(85.6+14.4)}=40.00$. Quantity for the hour=1,293.7×40.00= 51,750 cubic feet.

COST OF PIPE LINES TO BE MANY MILLIONS

(Continued from Page 170)

sion have been definitely arranged and work would have been started before now but practically all the right of way has been deeply submerged by the river overflows.

The Monroe-Baton Rouge line was completed late in 1926 and furnished the first main outlet for Monroe gas and gave Baton Rouge its first gas supply and also will furnish the first natural gas for New Orleans. The present line extends a distance of 170 miles, crossing the Mississippi at Natchez, and consists of 22-inch pipe. The New Orleans extension will be 100 miles of 18 and 16-inch pipe.

Northwest Louisiana Gas Co.

The Northwest Louisiana Gas Co. has a line from Monroe extending to Ruston, a distance of 30 miles west. This, and the gas distribution system at Ruston, was purchased from the Ruston Gas Co. only a few weeks ago. This will form an important link in a major gas transportation and distribution system which the Northwest Louisiana Gas Co. has under way or is planning.

This company at present is laying a gas line from Homer to Arcadia, a distance of 25 to 30 miles with a 5-mile branch to the town of Gibsland. When this is completed it will be extended from Arcadia to Ruston to connect with the Monroe line recently bought from the Ruston Gas Co. The company already has a gas line system tapping Webster and Claiborne Parish fields and serving a number of important towns in northern Louisiana. It is contemplating building an extension to Carterville, but to do this would require only 3 miles of pipe.

The Public Utilities Corp. of El Dorado, Ark., recently was granted a permit by the Arkansas railroad commission to lay 75 miles of 10-inch line from Johnson County, Arkansas to Conway by way of Russellville, Atkins and Morrilton. This is another gas line project on this year's docket.

That the new Rayville Field of Richland Parish may get a gas line is possible with the recent announcement of the Ruston Drilling Co. that it would connect that field with Jackson and Vicksburg, Miss., if franchises could be obtained from those cities. However, nothing definite has been done and it is not likely that this line will be built this year.

Line From Amory, Miss.

An 8-mile gas line was completed this year in northeastern Mississippi to pipe gas from the Amory Petroleum Co.'s wildcat gas well brought in last October to the town of Amory. This is a 4½-inch line laid for the Amory Natural Gas Co. supplying Amory with gas. This line is to be extended to Aberdeen, the county seat of Monroe County. At present the gas supply is from one well making a reported 2,000,000 feet daily.

Stood the Floods Well

Louisiana and Arkansas companies during the flood of April, May and June were concerned chiefly in keeping their lines intact and with few exceptions little damage was done to oil and transportation systems. The biggest damage probably was suffered by the Standard Pipe Line Co. at Melville, La., where a break in a levy put the company's 6 and 8-inch trunk lines from north Louisiana and Oklahoma to Baton Rouge out of commission.

Although where the break occurred, the country still is under water and 10 feet of sediment, the lines have been raised and the breaks welded. It was found that only four of the six lines had been broken. All are in operation again but as the Melville pump station is under water and sand the oil has to be pumped through the station from the next station above so the lines cannot be run to capacity.

Other companies, which suffered breaks are getting their lines repaired rapidly and all will be back to normal soon. However, the Standard Pipe Line Co. will not have its Melville station and lines running normally for about 60 days as the water there has not receded entirely and considerable excavation will have to be done. The lines have not been placed permanently but are suspended on trestles above the water.

In the meantime the Standard Pipe Line Co. is building a 6-mile loop to its lines passing Shreveport to provide an additional booster station to increase the capacity of the lines by 10,000 bbls. This loop will consist of 12-inch pipe.

Rocky Mountains

The largest pipe line project of the first half of the year was the Midwest Refining Co. and the Wyoming Gas Co.'s gas line from the Buffalo Basin Field, Hot Springs County, Wyoming, to a connection with the Nowood loop of the Hidden Dome to Greybull line, near Manderson.

When the gas supply began to show signs of replenishing at Greybull, the Midwest and Wyoming Gas Co. reached an agreement by which the two companies would operate the gas system together, the Midwest for the benefit of the Greybull plant and the Wyoming Gas Co. for the benefit of the towns and cities in the central part of the Big Horn Basin.

The Buffalo Basin to Greybull line was the result. This line is 72 miles long and is laid with 14-inch plain end pipe and Dresser couplings. It was completed about July 1, 1927.

There are two laterals on this line, both 6-inch and both 6 miles in length. One lateral to Grass Creek supplies that field and one to Worland supplies that town.

The next largest pipe line project in this region was the Ohio Oil Co. and the Illinois Pipe Line Co. from the Cap Rock Pool, in Lea County, New Mexico to a connection with the Artesia Field pipe line of the Illinois Pipe Line Co.

This line was occasioned by the bringing in of the Cap Rock Pool east of Artesia and is being used to carry the oil from the new pool to Dayton, on the railroad near Artesia. It is a 4-inch screw pipe line and 29.4 miles long.

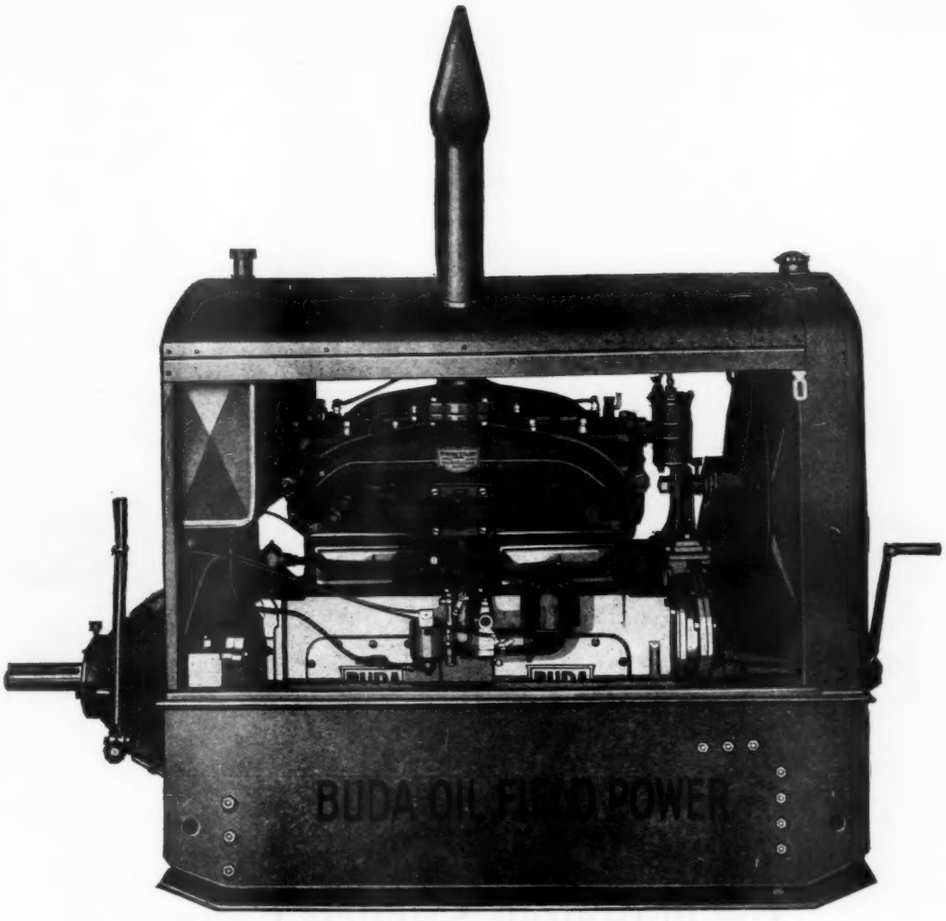
The Illinois Pipe Line Co. laid a 3-inch line from the Dutton Creek well of the Midwest Refining Co. in Albany County, Wyoming to a connection with the Rock River-Laramie pipe line and this lateral is 3-inch pipe and 4 miles long.

The Illinois Pipe Line Co. is now laying a pipe line from the Oregon Basin Field, Park County, Wyoming, to the Burlington Railroad about a mile east of the city of Cody. This line is 8-inch pipe and 15½ miles long.

Last January the Continental Oil Co. laid a line from the new well at Walden to the railroad, this line is 2-inch pipe and 2½ miles long.

On the first day of 1927, the Hard Rock Oil Co. turned in the gas into the

(Continued on Page 186)



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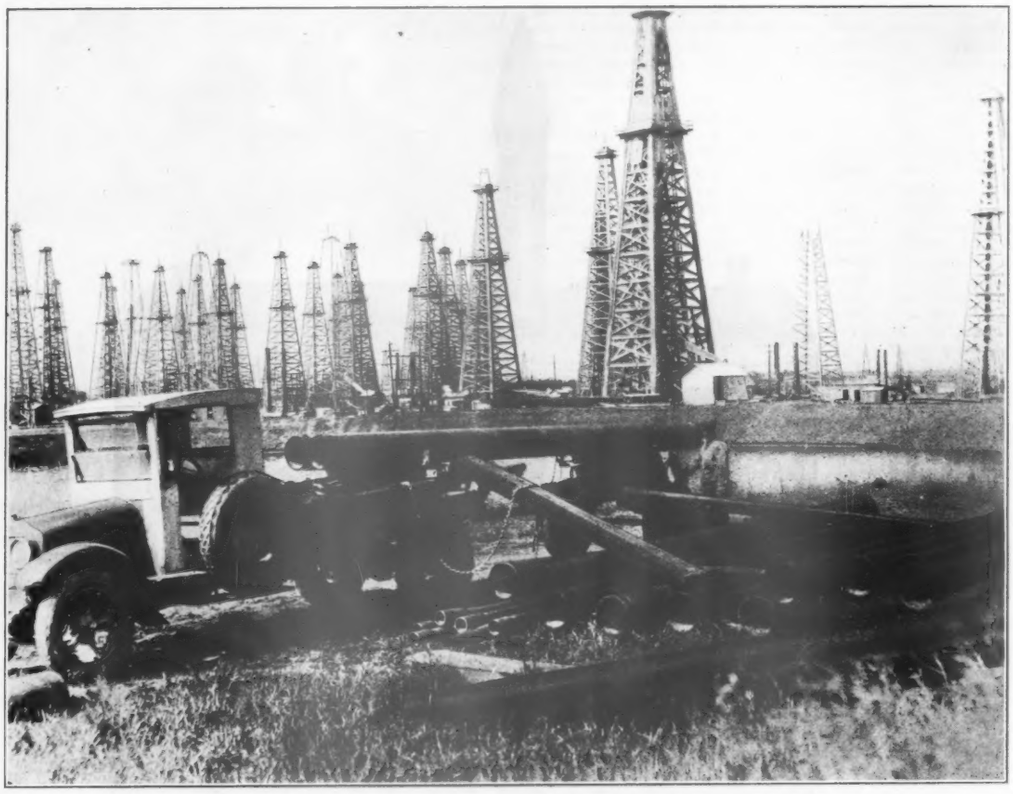

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The drilling is completed. The well promises large production. Now to run the last string of casing. Why take a chance on delayed production or a lost hole by using anything but the best casing on the market?

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WEST TEXAS DEVELOPS SOME GREAT FIELDS

(Continued from Page 99)

Collett first drew attention to the major possibilities of the Church-Fields Pool when they drilled in their No. 1 University, NW cor., Section 47, Block 30, on Sunday, January 30. With tools swinging in the hole this well flowed 1,300 bbls. the first 11 hours at 2,890-2,905 feet. Later deepened a foot it increased to 188 bbls. an hour.

About two weeks later, Simms Oil Co. and Atlantic Oil Producing Co. brought in their No. 2 University, diagonal northwest offset, flowing 300 bbls. an hour from pay topped at 2,889 feet and drilled to 2,935 feet. Late in March their No. 3-A flowed 4,500 bbls. the first 11 hours at 2,871-2,924 feet, but had to be pinched in due to lack of pipe line facilities and was never brought back to anything like this size. No. 2 also had to be pinched in and as a result went dead for a brief period but was revived. Experiments with air lift were tried on this well and its output was increased in this way. Before pinching in, No. 2 flowed as much as 300 bbls. an hour for a time. It gauged 7,146 bbls. February 20.

Several excellent wells could be listed with initial production to more than 1,000 bbls. In fact, the average initial production of the Church-Fields Pool has exceeded 1,000 bbls., counting the two Simms and Atlantic wells good for 8,000 and 9,000 bbls. respectively. The average figures out about 1,175 bbls.

At the beginning of the year there were nine wells in the Gulf-McElroy Pool making 8,200 bbls. daily, and 14 producers in the Church-Fields sector making 1,042 bbls. daily, a total of 23 wells and 9,242 bbls. On July 9, there were 111 producers making 61,013 bbls. daily in the combined pools. The average production per well, therefore has increased from 401 bbls. to 550 bbls. during the six months.

Winkler's Boom

Winkler County's boom, which gradually gathered momentum throughout 1926 while the discovery well was slowly forging ahead, received its greatest stimulus about March 25 when Gulf Production Co.'s No. 1 Hendricks, NW cor., Section 34, Block B-5, southeast diagonal offset to the discovery, came in at the rate of 4,000 bbls. daily. It topped the pay at 2,824 feet and started flowing by heads at 2,836 feet. When drilled to 2,842 feet it flowed 2,092 bbls. the first 12 hours and had to be pinched in, making 2,580 bbls. the first day. Due to lack of storage or pipe line, it has since been held down to the size of the discovery well or about 300 bbls. daily. Gravity tested 29 degrees.

In the meantime, the Southern Crude Oil Purchasing Co.'s No. 1 Hendrick, discovery well, was gradually deepened to 3,049 feet and increased to 385 bbls. daily. Top of pay in this well was 2,996 feet, elevation 2,820 feet. It began flowing about 125 bbls. at 2,996-3,005 feet early last November and was then sold by the discoverers, Roy A. Westbrook and others, to its present owners for $510,000, half cash and half oil. The deal included 1,460 acres.

There are now five producing wells in the Hendrick Pool making about 1,300 bbls. daily, and 17 wells are drilling. Four new locations close to the pool have been made recently.

Winkler County seemed destined to have its second pool when the Llano Oil Co. topped a pay at 2,990 feet on May 14 in its No. 1 Scarborough, C Section 1, Block C-22, about a mile and half south of the New Mexico line. Oil rose as high as 1,500 feet in the hole as drilling progressed, and at 3,094 feet the well swabbed 75 bbls. in six hours May 22, the gravity testing 35.2 degrees corrected. A second pay was found at 3,124-28 feet which swabbed 35 bbls. after standing 42 hours, but at latest report the hole had been carried down to 3,365 feet, where the bit was lost. There was 2,200 feet of oil in the hole at that depth.

Roxana Petroleum Corp. obtained a half-interest in this well and about 5,000 acres around it through an arrangement with Llano Oil Co. whereby both concerns pooled their acreage, each retaining half interest in the entire block. Some cash was involved, but the amount was not stated. This deal was made a few days after the 2,990-foot showing was struck.

Ector County Added

Ector County was added to the producing list during the past six months when J. S. Cosden's No. 1 Connell-A was plugged back from total depth of 4,002 feet to 3,786 feet and pumped 65 bbls. initially March 12. This well is in the C NE Section 13, Block B-16, Public School land. Cosden's second test was located in the NW cor. of the same quarter section and his third attempt in the SE cor. of the quarter. Neither is yet completed, although both have been shot and No. 2 looks like a small well, while No. 3 appears to be a failure.

Some excellent extensions of Upton County's producing strip were effected during the past six months, most important having been Prairie Oil & Gas Co.'s No. 1 Allie Lane (at first labeled No. 1 Lane-C) in the NW cor. SW SW Section 3, G. C. & S. F. Survey. This well extended the Dixie-Burleson area a half mile southeastward. It topped the pay at 1,867 feet and found the big pay at 2,010-30 feet, flowing 502 bbls. the first 24 hours.

Just a quarter of a mile farther southeast of this well, Gulf Production Co.'s No. 2 J. F. Lane broke all Upton County records when it came in July 9 flowing 300 bbls. an hour at 1,956-64 feet and a few days later gauged 5,700 bbls. Gulf's No. 1 J. F. Lane, north offset to the Prairie well also made 1,800 bbls.

During the same week that the Prairie's Allie Lane producer was brought in, Snowden & McSweeney opened up another small link in the chain of pools along this same trend. Half a mile southeast of the producers on the Hughes land, their No. 1 Hughes in the William Teer Survey No. 4 flowed 287 bbls. at 2,679-84 feet with surface elevation of 2,679 feet. The Gulf Production Co.'s offset was a failure and two other offsets were very small wells.

Another significant Upton County extension was Humble Oil & Refining Co.'s No. 5 Ricker located 2,310 feet from the NE line and 4,600 feet from the NW line of Section 5, Mary S. Denton Survey, half a mile south of the nearest production. It came in June 10 flowing 830 bbls. the first 23 hours from pay at 2,255-68 feet and averaged 36 bbls. hourly for the first 71 hours. Gravity tested 30 degrees.

Crockett County Looks Better

The most important event which has happened in Crockett County since the World Oil Co. discovered oil in its No. 1 Powell in May of 1925 and sold out its holdings for $400,000 cash and $1,000,000 in oil to Humble and Marland, occurred May 31 when P. H. Williams topped the pay at 2,575 feet in his No. 1 L. P. Powell, NE cor. Section 53, Block BB, a mile south of the pool. This well was drilled to 2,590 feet and has produced as high as 700 bbls. swabbing and flowing, making it at least three times as good as anything in the field. Offsets are now being drilled by Humble and Marland, Gulf and Link-Taylor and Kirby Oil Co. It looks as though the real pool which was sought for a couple of years may lie to the south.

First Oil in Glasscock

Glasscock County was added to the producing list when Marland Oil Co. and Texon Oil & Land Co.'s No. 1 Settles, in Section 160, Block 29, W. & N. W. Survey, topped a pay sand at 1,235 feet about March 5. It was completed on the pump for 230 bbls. at total depth of 1,263 feet and was averaging 34 bbls. July 9. Being in the center of a practically solid 10-section block, it occasioned little excitement and no additional drilling. Location for the second well, in fact, has just now been made.

Howard County Development

Howard County has one new pool which was discovered during the first half of the year. This was opened by Marland Oil Co.'s No. 1 Harding, C SE Section

(Continued on Page 181)

Picture shows a Buckeye Pipe-Line Excavator being used by the Houston Pipe Line Company to lay the gas line to Hoskins and Bryan Sulphur Mines.

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Seasonal Increase In Steel Operations Being Experienced

By B. E. V. Luty

PITTSBURGH, July 25.—Various observers have been endeavoring to "call the turn" in the steel market, basing their pronouncements upon the recent steel corporation unfilled tonnage report, showing no loss in June when there had been a large loss in May, and upon various reports now and then of slightly heavier steel mill operations.

Such efforts fall rather flat, because the precedents of three successive years have indicated it to be natural for there to be a decided improvement in the steel trade situation at this time or a little earlier, and at best any changes observed have been small. Thus it seems to be more to the point to take it that the steel trade is not altogether showing its usual seasonal improvement than to take it that an important favorable change has occurred in the general condition.

Steel mill operations in the past week have not averaged above 65 per cent of full capacity, which means about 30 per cent decrease from the March rate, which was record high, and nearly 25 per cent decrease from the average during the first half of the year. Thus a moderate upturn from the present low rate could occur without putting the trade in particularly good shape, and even a moderate upturn is somewhat doubtful, although rather probable.

Buying Slowing Up

Even if there were more steel buying at the present time no large increase in activity would be indicated, for circumstances in the various steel consuming trades are not particularly good. Rail buying is proceeding in the present supplementary rail buying season, but this involves no great tonnage, nothing like that in the main buying season, such orders having been practically completed in the first half of the year, so that rail production promises to be lighter in the second half. Freight car buying has been rather light. The agricultural implement industry is in its usual summer lull, and the very poor corn crop indicates that activity later in the year will be less than would otherwise be expected. The automobile industry as a whole is running at rather a low rate, no better than in June, with little prospect of much improvement next month. While fabricated structural steel lettings have picked up in the past few weeks the general rate since early in May is below the average.

Thus there are no definite indications of any large improvement coming in demand, though some of the usual seasonal improvement is to be expected.

Considering the pipe trade separately, there is no favorable outlook for the near future. Instead of there being any seasonal improvement in demand for oil country goods in the past few months, there has been practically continuous decrease in demand since early March, when demand was not at all good. Buying of line pipe has run relatively light in the past few months and some large orders placed months ago are nearing completion. In standard pipe demand has been fair this year, at only a few per cent below that of last year, and no special improvement in this direction is to be expected.

All reports are that finished steel prices on strips, which were advanced some four months or so ago, on sheets, which were advanced two or three months ago, and on wire nails which were advanced quite recently. In these three lines there are still deliveries at the old prices and until the old business is entirely worked off and all buyers are paying the current prices on all their receipts, the market cannot be regarded as permanently established at the current levels.

The coal strike continues to amount to nothing as to the possibilities of the union winning anything, as prices tend to decline rather than advance and nonunion operators could produce more coal than is called for.

Connellsville coke is dull and unchanged, and the same is true of valley pig iron. Southern pig iron is off 75 cents to $17.25, Birmingham, the last decline having occurred early in January.

California Petroleum Statistics First Half of 1927

(Continued from Page 105)

Total Intercoastal Shipments (Bulk) of California Oil to Atlantic and Gulf Coast Ports

(In Barrels of 42 U. S. Gallons)

	Crude Oil	Fuel, Gas Oil and Diesel	Naphtha Tops	Motor Gasoline	Lubricating Oil	Total
1924—						
January	5,114,329	.....	150,747	294,373	58,710	5,618,159
February	3,559,145	.....	290,889	80,616	78,451	4,009,101
March	3,640,300	71,720	233,528	383,476	59,857	4,388,881
April	3,327,292	.....	213,862	248,380	.....	3,789,534
May	3,162,528	.....	288,649	309,278	60,974	3,821,429
June	2,762,456	.....	139,814	225,062	.....	3,127,332
Total first half	21,566,050	71,720	1,317,489	1,541,185	257,992	24,754,436
July	3,332,797	68,951	70,000	73,738	61,060	3,606,546
August	2,435,611	774,506	.....	298,669	.....	3,508,786
Sep ember	2,941,797	91,646	147,754	238,372	81,024	3,500,593
October	2,687,997	.....	236,340	80,670	44,000	3,049,007
November	1,876,230	.....	79,630	161,488	129,166	2,246,514
December	1,802,485	.....	255,055	459,894	61,937	2,579,371
Total last half	15,076,917	935,103	788,779	1,312,831	377,187	18,490,817
Total year	36,642,967	1,006,823	2,106,268	2,854,016	635,179	43,245,253
1925—						
January	1,473,869	.....	156,071	328,156	.....	1,958,096
February	1,537,428	85,712	315,009	661,384	58,205	2,657,738
March	1,688,866	153,288	334,344	641,891	.....	2,818,389
April	1,392,913	91,070	158,536	908,018	58,400	2,608,937
May	869,738	.....	248,310	829,349	.....	1,947,397
June	1,399,609	236,228	76,185	1,293,136	58,205	3,063,363
Total first half	8,362,423	566,298	1,288,455	4,661,933	174,810	15,053,919
July	1,004,070	58,105	170,743	1,439,406	1,200	2,673,524
August	1,349,799	.....	157,465	875,257	58,000	2,440,521
September	580,695	.....	.....	301,602	57,400	939,697
October	536,462	308,028	164,129	1,052,373	.....	2,060,992
November	764,360	666,570	74,052	762,435	57,400	2,324,817
December	803,299	821,706	78,728	719,666	59,000	2,482,399
Total last half	5,038,685	1,854,409	645,117	5,150,739	233,000	12,921,950
Total year	13,401,108	2,420,707	1,933,572	9,812,672	407,810	27,975,869
1926—						
January	1,257,681	973,278	71,178	828,696	52,025	3,182,858
February	868,939	1,017,081	.....	424,964	.....	2,310,984
March	1,224,705	895,797	73,698	669,155	52,063	2,915,418
April	1,103,322	904,904	.....	735,157	.....	2,743,383
May	1,378,510	1,008,069	.....	831,566	53,059	3,271,204
June	966,094	788,963	.....	462,548	.....	2,217,605
Total first half	6,799,251	5,588,092	144,876	3,952,086	157,147	16,641,452
July	1,152,692	1,096,928	.....	901,109	58,470	3,209,199
August	723,663	1,811,221	.....	859,586	.....	3,394,470
September	725,450	1,048,984	152,411	481,589	134,393	2,542,857
October	821,159	1,359,641	.....	686,659	57,860	2,925,319
November	398,085	1,201,116	72,157	604,682	.....	2,276,040
December	426,218	1,104,878	.....	961,755	.....	2,494,851
Total last half	4,249,267	7,622,768	224,598	4,495,380	250,723	16,842,736
To al year	11,048,518	13,210,860	369,474	8,447,466	407,870	33,484,188
1927—						
January	392,298	1,664,521	.....	651,799	58,110	2,766,728
February	860,729	1,223,624	.....	1,108,558	.....	3,192,911
March	582,941	1,417,361	.....	602,202	53,860	2,656,364
April	479,357	1,068,776	.....	767,642	.....	2,307,777
May	1,269,825	643,754	.....	1,079,681	.....	2,993,260
June	1,097,007	639,362	.....	960,390	132,856	2,829,615
Total first half	4,673,157	6,658,400	.....	5,170,272	244,826	16,746,655

Note: The above figures do not include case goods.

TOTAL FLUID STOCKS HELD ON THE PACIFIC COAST

(Barrels)

	Heavy Crude and Fuel	Refinable Crude	Gasoline	Naphtha Distillates	All Other Stocks	Total All Stocks
1924—						
December 31	58,126,999	40,557,414	10,957,487	9,396,613	6,838,490	125,877,003
1925—						
January 31	58,374,519	42,262,361	11,748,056	8,652,085	7,486,313	128,523,334
February 28	59,286,146	42,629,850	12,058,682	7,888,410	8,042,788	129,905,876
March 31	60,214,124	43,501,830	11,833,460	7,356,018	8,701,656	131,607,088
April 30	62,339,602	44,334,413	11,675,831	6,769,291	9,066,725	134,185,862
May 31	64,820,145	45,149,666	11,363,943	6,435,416	9,308,112	137,077,282
June 30	67,785,073	44,577,671	10,406,430	6,293,472	9,370,537	138,433,183
July 31	71,498,732	44,198,326	9,751,143	6,188,559	9,862,459	141,499,219
August 31	*78,802,289	41,216,021	9,687,158	6,418,152	9,356,293	145,479,913
September 30	81,969,283	42,487,578	9,668,725	6,681,547	9,408,267	150,215,400
October 31	83,655,136	43,281,862	9,935,079	6,478,634	9,918,761	153,369,472
November 30	84,814,278	43,930,517	10,015,112	6,373,852	9,764,934	154,898,693
December 31	85,719,383	44,196,138	10,172,562	6,548,483	9,879,743	156,516,309
1926—						
January 31	86,580,630	43,802,077	10,252,936	6,702,299	10,256,439	157,594,381
February 28	86,715,041	44,463,968	10,670,895	6,666,518	10,333,735	158,850,157
March 31	88,437,660	43,564,186	11,116,928	6,339,453	10,161,739	159,619,966
April 30	†86,291,516	38,393,564	11,271,718	5,641,183	10,213,034	151,811,015
May 31	88,475,401	37,044,292	10,804,022	5,184,540	10,225,234	151,733,489
June 30	89,074,507	35,340,238	10,766,007	5,213,043	10,120,565	150,514,360
July 31	88,362,629	33,648,115	10,450,418	4,955,313	10,685,297	148,001,772
August 31	88,452,937	32,152,958	10,421,903	4,755,297	10,471,989	146,255,084
September 30	88,572,233	30,308,093	10,545,392	4,281,018	10,919,993	144,626,729
October 31	88,588,410	30,323,321	10,614,073	4,120,222	11,340,321	144,986,347
November 30	88,606,574	30,224,135	11,209,705	3,841,424	11,022,036	144,903,874
December 31	88,707,499	30,335,057	11,673,563	3,832,042	10,564,015	145,612,176
1927—						
January 31	89,390,079	31,176,493	12,369,861	3,983,435	10,407,139	148,327,007
February 28	89,107,872	25,913,353	13,889,904	3,903,222	10,479,202	147,292,553
March 31	89,015,608	29,500,917	14,521,422	3,991,351	10,003,875	147,033,173
April 30	89,666,735	29,418,335	14,565,364	3,741,718	9,907,191	147,299,343
May 31	91,695,285	27,265,926	13,602,175	3,659,951	9,924,425	146,247,762
June 30	91,878,389	27,175,971	13,496,541	3,517,038	9,716,166	145,783,205

*1,179,865 bbls. previously reported as refinable crude, were transferred in August to heavy crude and fuel stocks. †Includes 800,000 bbls. heavy crude not previously reported. This represents the working stock of a pipe line company and has been a constant figure in the past.

NOTE—8,214,864 bbls. of crude oil, fuel oil, tops and gasoline were destroyed by lightning fires at Kern River, San Luis Obispo and Brea during April, 1926. Segregation of various commodities destroyed not available. The figures shown above cover actual physical stocks on hand at end of each month.

LOOKING FOR THE OIL FIELDS OF THE FUTURE

(Continued from Page 117)

ing some operators out in search of new oil.

Judging from interest now manifest in leasing by many companies, both large and small, West Carroll Parish in the extreme northeastern part of Louisiana will be the rankest wildcat district to be prospected for oil or gas the latter half of the year. That district generally is conceded as being the most likely opportunity for entirely new development, chiefly because of the theory held by many operators that the "mother" pool of the Monroe gas field is yet to be uncovered.

The Monroe district, the largest gas field in the world, both in area and in open flow capacity, lies in Morehouse, Union and Ouachita Parishes, its eastern limits being from 20 to 25 miles west of the West Carroll-Morehouse Parish line.

Looking for "Mother" Pool

No oil, other than some minor showings, has been found in the Monroe Field, which has produced an enormous flow of gas varying from a dry product in some sections to a gas rich in gasoline in other parts. Operators have been drilling for years in parts of northeast Louisiana and southeast Arkansas in the neighborhood of the Monroe Field in hopes of finding the "mother" pool. Many have contended that the Smackover and El Dorado Fields ended this search but others have held to the belief that this pool has not been touched.

Virtually all the drilling for oil so far has been to the north, northwest, west and southwest of the Monroe Field with the territory to the east and in the northeastern part of the state holding very little interest for the wildcatter. Only the past year, drillers pushed eastward to any extent, their first objective being to the southeast in Richland Parish.

The results of the move in that direction are known to all operators. Another gas field was uncovered, the Rayville district, the limits of which have yet to be defined. With less than a dozen wells completed, gas in commercial quantities there extends over an area approximately 8 miles from north to south and 3 to 4 miles east and west.

West Carroll Parish

Still with possibilities that oil may be uncovered in Richland Parish, the Ray-

(Continued on Page 182)

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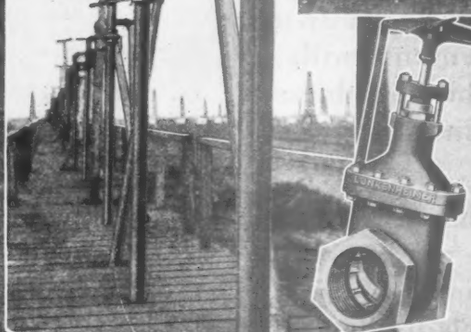

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WEST TEXAS DEVELOPS SOME GREAT FIELDS

(Continued from Page 177)

19, Block 22, T. & P. Survey, T-1-S, about May 7. Pay was found at 3,163-3,230 feet, and after the well was finally put on the pump June 12 it averaged 140 bbls. daily for the first four days. Gravity tests 28.2 degrees. It was pumping an average of 40 bbls. daily during the week ending July 9.

The Chalk Field in southeastern Howard County had 87 wells making 3,175 bbls. at the close of June. It began 1927 with 24 wells making 1,591 bbls.

Early in January of this year, Marland Oil Co. deepened their No. 1 Clay, known as the Fred Hyer well, in the SE cor. Section 113, Block 29, Howard County, and increased its production, by shooting, from 135 bbls. to 240 bbls. This well is not regarded as the discovery of the Chalk Field proper, but was the first well completed in that vicinity, having been completed November 28, 1925, for 32 bbls. of 31.3 gravity oil on the pump. Depth of the original pay was 1,542-66 feet. In January it was deepened by Marland to 1,794 feet and shot with 35 quarts from 1,773-87 feet, after which it increased to 240 bbls.

Deeper Pay in Jones County

Jones County had two or three flurries of excitement during the six months. The Noodle Creek Pool, which was discovered September 8, 1926, turned out to be a rather tricky proposition, and to date just 17 producers have been completed making 1,850 bbls. About February 12, Marland Oil Co. discovered a deeper pay in its No. 2 Mason in Section 18, Block 19, a location north and west of the discovery. This new pay at 3,036-39 feet swabbed 100 bbls. of oil and 32 bbls. of water the first eight hours, and has always made some water along with the oil. The only other well which has tested it is Phillips Petroleum Co.'s No. 4 Winter, which was completed early in July for 37 bbls. of oil and 97 bbls. of salt water at 3,025-37 feet. The regular Noodle Creek pay was good for 1,800 bbls. in Marland's No. 3 Mason, a location west of No. 1, at 2,510-16 feet. This is the best well in the pool.

Up to July 1 the Noodle Creek Pool had produced 479,861 bbls.

A new Jones County Pool was opened about April 10 by Stebbins Oil Co.'s No. 1 Higgs in Section 30, W. T. Scott Survey, about 7 miles southwest of Leuders. It was completed for 20 bbls. on the pump at 1,599-1,615 feet and had about 100,000 feet of gas. Due to the general depression in the industry, nothing had been started around it at the close of June.

About January 14, Gillette & Hickey and Cowboy Evans' No. 1 S. W. King, located in the Manuel Bueno Survey No. 196 topped a pay at 2,070 feet which put some oil in the hole and during the same week Muse & Robertson and Cowboy Evans' No. 1 Manly in the southern part of Section 35, Block 14, T. & P. Survey, found approximately 500,000 feet of wet gas. The No. 1 King swabbed about 10 bbls. of oil and 30 bbls. of salt water and was later deepened to 2,100 feet and abandoned. The No. 1 Manly was abandoned at 2,070 feet.

About June 4, Campbell and Midwest Exploration Co. and others' No. 1 L. H. Herndon, located about 3 miles south of Anson in the C W half SW Section 6, M. E. P. & P. Survey, obtained a show of oil and gas at 2,499 feet, with surface elevation at 1,832 feet. It was deepened to 2,524 feet, where it swabbed 115 bbls., and in July was further deepened, the latest report showing it to be fishing for tools at 2,635 feet.

As a direct result of the Noodle Creek discovery, 29 wells were officially completed in Jones County during the first six months of 1927, of which number 16 were oil wells with an aggregate initial production of 5,294 bbls. and 13 were dry holes. In Fisher County, adjoining Jones on the south, also bear expensive testimony. One dry hole was also completed in Nolan County, southwest offset to Jones.

Reagan County

The continual effort to locate the second Big Lake Pool in Reagan County met with the customary lack of success this year, six dry holes having been finished up. One, however, came closer to the goal than any other since the Santa Rita discovery. This was Moody Oil Corp.'s No. 1 Sawyer, located about 12 miles east of the Big Lake Field and about 5 miles northeast of the town of Big Lake in the C SW of Section 150, Block 1, T. & P. Survey. It encountered a show of gas at 2,575 feet and a show of oil at 2,580 feet, about January 2. It was drilled on down to 2,685 feet and early in February actually bailed about 10 bbls. of live oil, but was shot with 120 quarts from 2,580 to 2,685 feet and water broke in, filling the hole 1,600 feet. The test was plugged and abandoned, but it is possible that another field exists somewhere in that vicinity. No other well has yet been started near it, but it is probable this area will receive further testing.

CHANGES IN PRODUCTION OF WEST TEXAS COUNTIES

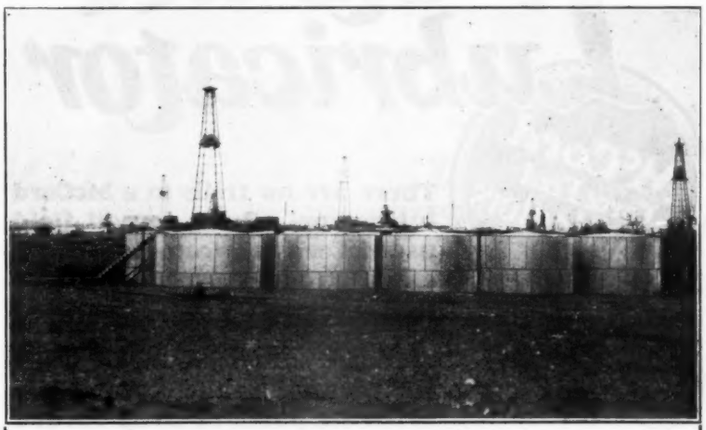
First Six Months of 1927

	Jan. 15		July 9	
County—	Wells	Bbls.	Wells	Bbls.
Big Lake Field	174	29,125	189	23,942
Crane	43	10,604	140	62,551
Crockett	29	1,635	37	1,401
Ector	0	0	2	100
Garza	1	5	1	5
Glasscock	0	0	1	34
Howard	24	1,591	87	3,175
Jones	6	2,007	18	1,864
Loving	1	35	1	20
Mitchell	108	4,137	133	3,852
Pecos	1	340	11	4,478
Scurry	4	45	4	21
Upton	161	15,717	258	21,140
Winkler	1	85	5	1,278
Total	553	65,326	877	123,861

NORTH CENTRAL AND WEST TEXAS

Summary of Completions by Months for First Half of 1927

Month—	Comp.	Prod.	Dry	Gas
January	434	46,430	159	5
February	480	66,916	168	3
March	475	43,924	167	4
April	555	91,532	201	11
May	397	63,108	163	9
June	326	46,579	127	9
Total	2,667	358,489	985	41
North Central Texas—				
Archer	319	14,608	147	0
Baylor	1	0	1	0
Brown	523	100,873	171	5
Callahan	60	1,423	43	2
Clay	23	135	14	2
Coleman	43	50	39	3
Comanche	4	55	3	0
Cooke	79	5,784	28	1
Denton	4	0	4	0
Eastland	94	9,737	36	6
Fannin	1	0	1	0
Foard	1	0	1	0
Grayson	1	0	1	0
Hardeman	1	0	1	0
Haskell	1	0	1	0
Jack	25	595	9	0
Montague	180	5,666	31	5
Palo Pinto	11	285	3	3
Parker	1	0	1	0
Shackelford	192	10,215	88	2
Stephens	46	1,470	18	8
Throckmorton	48	4,353	28	1
Wichita	255	6,721	124	0
Wilbarger	145	10,176	25	1
Wise	1	0	1	0
Young	144	17,518	56	0
Total	2,203	189,594	875	39
West Texas—	Comp.	Prod.	Dry	Gas
Borden	1	0	1	0
Brewster	1	0	1	0
Cochran	1	0	1	0
Coke	1	0	1	0
Concho	4	0	4	0
Crane	49	78,551	9	0
Crockett	6	160	5	0
Culberson	2	0	2	0
Ector	2	65	1	0
Fisher	7	0	7	0
Garza	1	0	1	0
Glasscock	3	230	2	0
Howard	62	4,144	2	0
Jeff Davis	1	0	1	0
Jones	29	5,294	16	0
Kimble	1	0	1	0
Midland	1	0	1	0
Mitchell	24	1,565	4	0
Nolan	1	0	1	0
Pecos	16	18,934	9	0
Presidio	1	0	1	0
Reagan	40	7,830	6	2
Reeves	2	0	2	0
Runnels	2	0	2	0
Schleicher	1	0	1	0
Sterling	2	0	2	0
Taylor	6	0	6	0
Terrell	2	0	2	0
Tom Green	1	0	1	0
Upton	141	47,761	15	0
Val Verde	1	0	1	0
Winkler	6	4,191	1	0
Total	465	168,725	110	2
Grand total North and W. Texas	2,667	358,419	985	41
Grand total first 6 months, 1926	2,687	161,393	1,118	48
Difference	20	197,026	133	7



TIGHTNESS-

Insured Both by Design and Method of Packing

TIGHTNESS—in MALONEY Tanks—is assured both by our patented "crimp" at seams and joints, and by our exclusive packing materials.

The Maloney "crimp" causes all seams and joints to fit with hair-line accuracy, without being hammered into place, and without calking. Our composition packing is pliable enough to leave a fringe on one side when a hole is punched through it, which tightly packs the bolt holes when bolts are tightened. Dressing with our Gaso Cement renders joints oil, water and gas tight.

MALONEYS are manufactured of rust-resisting Keystone Copper Steel, unsurpassed for durability. Cleaning-out plates are set flush with bottoms. Seams are strongly reinforced. The best of valve and thief hatch equipment is used.

The battery of ten 1,000-bbl. MALONEYS shown above is located at Sue Walker No. 1, Carter Oil Co., Bowlegs district.

"Alone in Quality"

MALONEY TANK MFG. COMPANY

Tulsa, Okla.

Distributors at All Principal Petroleum Points

Sizes: 12 to 3,000 Barrels

Packed in Steel-Bound Crates for Export

Howell Aluminum "3-in-1" Vacuum Pressure Valve and Thief-Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety.

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

MALONEY

ALONE

It's all Lubricator

McCord Force Feed Lubricators

There are no frills in a McCord lubricator. Built for oil field use McCord lubricators are made extra strong to stand up under hard service.

McCord lubricators are built like a high grade automobile with all parts of drop forged steel. Numerous inspections in the course of manufacture along with a rigid final inspection insure long and satisfactory service.

Any pump unit can be removed for inspection or cleaning without disturbing any other unit and the only tool needed is a screw driver.

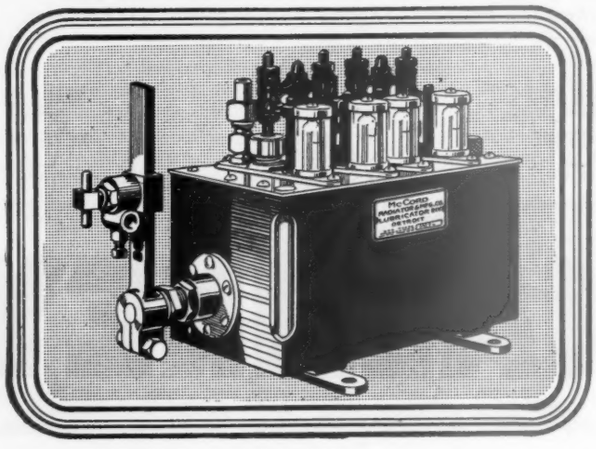
Standard of the Oil Fields

Is it any wonder no McCord lubricator has ever been known to wear out? That lubricators purchased ten and twelve years ago are still on the job.

Specify McCord lubricators "Standard of the oil fields" on your next engine pump or compressor.

Ask your National Supply salesman for further details.

McCORD RADIATOR & MFG. CO.
Lubricator Division
DETROIT, MICH.



LOOKING FOR THE OIL FIELDS OF THE FUTURE

(Continued from Page 178)

ville district will offer further possibilities for the wildcatter in the next few months but it has been fairly well marked as a gas field. Now operators are reaching out for another new region which might house the Monroe "mother" pool.

That region is West Carroll Parish, directly northeast of Richland Parish, and the present scene of leasing activity there is approximately 25 miles northeast of the Rayville Field, thus forming the northeast corner of a triangle with the Monroe Field and the Rayville Field as opposite corners.

In West Carroll Parish, the Palmer Corp. has blocked more than 38,000 acres and protection acreage has been taken by nearly all major companies in North Louisiana and Arkansas as well as smaller companies. The Palmer Corp. has started a test in the NE SW, Section 16-20-10e. Phillips Petroleum Co. has another block on which it is to drill in the NW cor. SW, Section 32-20-9e.

Inland Salt Domes

Inland salt domes of North Louisiana present another possibility for development by the wildcatter but considering present conditions it is not likely that any extensive play outside of leasing will be given these in the immediate future. Several salt dome tests are under way and others naturally will be started before the close of the year but for the most part leasing is for long terms and unless some unusually important strike is encountered by one of the tests drilling or market conditions improve it is expected that a thorough salt dome drilling campaign will be delayed as long as possible.

However, interest continues high in salt dome leasing. Practically all acreage around known salt domes in north Louisiana already has been leased up in the past few months and now the play will be toward the locating of additional domes. This hunt for new salt domes is expected to be one of the features of the wildcatting program of the next few months.

Geophysics in Louisiana

This has brought geophysical operations to prominence in north Louisiana and many of the larger companies have several crews each working with seismographs and torsion balances principally in Sabine, Winn, Bienville and Grant Parishes. It is in this part of the state that most of the known salt domes are located and these parishes in particular will benefit from any salt dome discoveries.

The Angelina-Caldwell flexure, which extends northeast-southwest along the southern tier of parishes of north Louisiana, probably will not figure as much in the wildcatting play from now on as it has in the past year. Companies operating along the flexure now are winding up a costly and unfavorable shallow drilling program there and the outcome of this play is expected to discourage much further drilling for the time being.

Prospective Work at Pleasant Hill

The remainder of the year is expected to witness the drilling of several more wells in the wildcat Pleasant Hill Field of northern Sabine and southern DeSoto Parishes although from present indications that new field will pay off only in small 42 gravity wells. This district has been one of the most actively drilled districts in the division and several wells have been brought in with good initial flows.

There also will be considerable activity in the Carterville district of northern Bossier Parish although the edge of interest has been taken off that wildcat area with its turning out to be productive of gas only, and this with salt water problems. However, the competition for gas reserves by several major gas companies is resulting in many new tests going down there.

A territory in Arkansas about 7 miles northeast of the El Dorado East Field and a slightly greater distance southeast of the Smackover Field presents wildcatting possibilities as a result of the Ohio Oil Co. getting a well in Section 1-17-14, pumping from 47 to 50 bbls. daily of clean 33 gravity oil.

However, with production at a depth of 3,000 feet and over, it is not likely that a field of 50-bbl. wells would be profitable at present prices of that grade of oil. This necessarily will restrain any intense drilling there until markets improve but this does not prevent it from being a play for lease hounds. Following the bringing in of the well there was a scramble for leases, principally by El Dorado, Ark., operators.

Calhoun County a Prospect

Another wildcat territory bearing watching is that in Calhoun County, Arkansas, where the Arkansas Natural Gas Co. and The Texas Company are drilling a co-operative test in Section 2-13-14. In Bradley County, Arkansas, a rank wildcat has encountered a good looking sand at 2,201-04 feet. This test is Johnson & Adams' No. 1 Southern Timber Co., Section 12-12-12. A wildcat in Ouachita County, Magnolia Petroleum Co.'s No. B-1 Stout, Section 28-14-16, also has a favorable sand at 2,095-97 feet. Bringing in of any of these tests as producers, although small, probably would turn the tide of wildcatting play in their direction.

Although conceding that this division's chief hope for new production lies at depths below 3,500 feet, which as yet have been only barely scratched, wildcatters of north Louisiana and Arkansas have not given up the belief that there is yet some unfound production at shallow depths and with this in view they continue to reach out in scattered parts heretofore unproductive.

Despite the fact that the division has been pretty thoroughly drilled with shallow holes under the 2,500-foot level it is not unlikely that some of these holes were not fair tests. Many of these tests were drilled by small and inexperienced operators with inefficient methods, and, with more favorable inducements for getting new production, some wildcatters, particularly the large companies, may go back over already drilled acreage and open new commercial fields.

Wildcatting in Oklahoma

There will be a very limited amount of wildcat operations in Oklahoma during the last half of this year, according to present indications. The current prices paid for crude are very unfavorable, and will do little to encourage the drill in the outlying territories. The majority of oil companies purchasing protection acreage around drilling wells have ordered their land departments to purchase only leases which are regarded as extremely attractive, and to renew leases which are about to expire rather than use the drill to explore the possibilities of their sands.

It is probable that the latter half of the year will be one of the quietest periods the wildcatters have ever experienced, but whatever work of this nature is done will be more or less confined to two outstanding territories; namely, the country southwest of the Seminole Field, which has been the subject of much interest for the past three years, and the western Oklahoma country, which has been revived by the completion of the Roxana Petroleum Corp.'s new well in Section 30-19-4w, where the Wilcox sand was found at a depth of 5,985 feet. The depth of the Wilcox in this operation will slow up drilling until improved conditions of price are evident.

The country southwest of Seminole has been very active in leasing and royalty purchasing for several years owing to its many geological prospects. It seems reasonable to believe that some findings of importance will be uncovered this year. One of the most important features of this country is that many geologists believe that the Hunton lime will be a more important producing formation than the Wilcox sand. In the majority of Wilcox sand wildcats which have been drilled in this area, the Hunton was found to have thickened appreciably, and the Wilcox in some places is reported to have been found thinner than usual.

The Hunton lime operation in the Pierson Pool, Section 30-7-4, and the Hunton lime well found by T. B. Slick and associates in Section 21-5-6, Pontotoc County, lend ample support to this idea.

Here's to Tom Whelan!

Drilling Against Time

WILLIAMSPORT WIRE LINE HELPS WIN UNTOLD WEALTH

Here's a story that seems like a movie thriller; a story where a fight against time, using reliable materials and square jawed men who "know their onions" brought in a big producer in a new pool just three days before the lease expired.

J. T. Parks owned a lease on an eighty acre tract of the Noel ranch and it had only fifty-eight days more to run; *fifty-eight days to reach protection!* could it be done?

No chances could be taken. Good, reliable drillers, *Fighters!* with a reliable line might save the lease.

Tom Whelan was selected to do the job and he DID IT! with a *Williamsport Wire Line.* And the Amarillo papers were full of praise for Whelan and Warren. Actual drilling time twenty-four days—

We repeat; A good Line in the hands of Good Drillers make a winning combination.

Williamsport Wire Rope Company

Main Office and Works: Williamsport, Pa.

General Sales Offices:
122 S. Michigan Ave., Chicago, Ill.

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Williamsport Bldg., 4th and Midland Valley Tracks, Tulsa, Okla.

Distributors

Houston Mildred Shidler Blackwell Ardmore Holdenville
Bristow Wichita Falls Bartlesville Smackover Arkansas City
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Use Madesco Tackle Blocks, They Stand the Gaff

Left to Right—W. S. Kelley, Farm Boss; Skeet Hinton, Chas. Bellman, Tom Whelan, J. D. Lewis.

PARKERSBURG
Rig Irons
Including Common,
California
and A. P. I. Standard
☐
PARKERSBURG
Steel Wheels
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PARKERSBURG
Steel Derricks and
Steel Crown Blocks
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PARKERSBURG
All Steel
Standard Rigs
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PARKERSBURG
Portable
Drilling Machines
Wood and All Steel
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Sand Reels
and Bailing Reels
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PARKERSBURG
Bolted
Steel Tanks
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PARKERSBURG
Miscellaneous
Drilling Equipment
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Check the equipment in which you are interested and we will send complete information covering it.

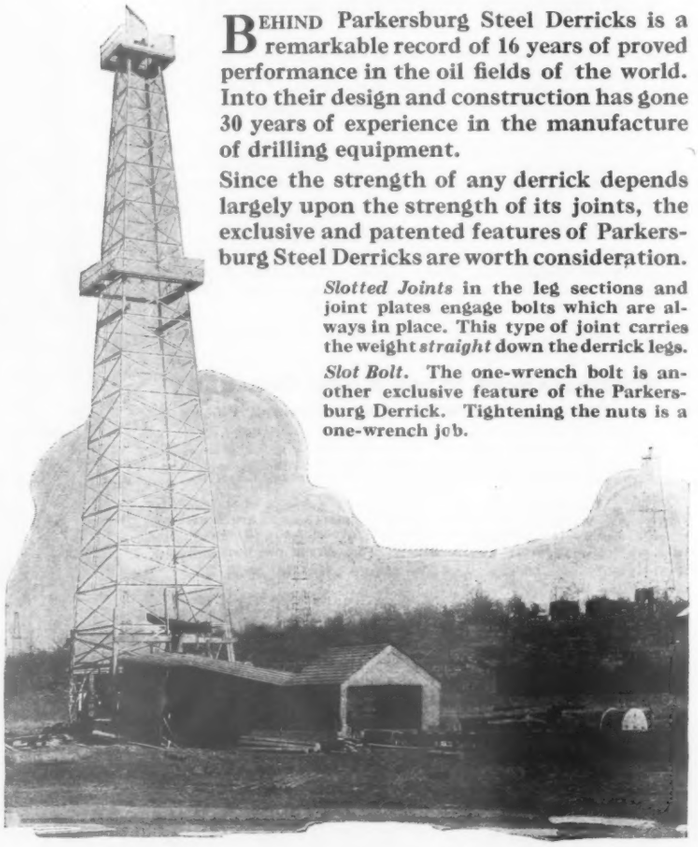
Demonstrated Value
in Actual Service

BEHIND Parkersburg Steel Derricks is a remarkable record of 16 years of proved performance in the oil fields of the world. Into their design and construction has gone 30 years of experience in the manufacture of drilling equipment.

Since the strength of any derrick depends largely upon the strength of its joints, the exclusive and patented features of Parkersburg Steel Derricks are worth consideration.

Slotted Joints in the leg sections and joint plates engage bolts which are always in place. This type of joint carries the weight *straight* down the derrick legs.

Slot Bolt. The one-wrench bolt is another exclusive feature of the Parkersburg Derrick. Tightening the nuts is a one-wrench job.



QUALITY PARKERSBURG SERVICE

The Parkersburg RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va.

Sales Offices and Stocks Carried in Every Producing Field

NAVY DEPARTMENT WILL TAKE CHARGE OF NAVAL OIL RESERVES

WASHINGTON, D. C., July 23.—The Secretary of the Navy and the Secretary of the Interior announced that they had reached an understanding in regard to the administration of the naval petroleum reserves, and leases of land in these reserves, to be effective hereafter. These leases number over 30.

"The mutual understanding," the announcement says, "is based upon their interpretation of Executive Order No. 4,614 of March 17, 1927, and upon the Acts of Congress, approved February 25, 1920, and June 4, 1920, and is to the effect that the Navy Department is now responsible for the administration of all leases heretofore made in the reserves, excepting three leases of producing wells in Reserve No. 2, which were granted pursuant to authority specifically imposed on the Secretary of the Interior by the act approved February 15, 1920, over which he will continue to exercise control with the co-operative approval of the Navy Department.

Transfer of Control Sought

"In regard to these three leases, the approval of Congress will be requested at the next session of the Department of the Interior to transfer jurisdiction over same from the Interior Department to the Navy Department.

"A copy of the agreement entered into July 9, 1927, which will become effective August 1, 1927, is attached.

"This agreement vests local control over the reserves in inspectors under the Navy Department. The local supervisors of the Geological Survey will continue to perform the same duties as they have heretofore, but will report to the respective Navy inspectors in regard to naval petroleum leases instead of to the director of the Geological Survey. The Navy Department will consult the Geological Survey as heretofore upon technical matters pertaining to the reserves.

"The Navy Department will determine the policy in regard to issuing any further leases on the naval petroleum reserves.

"The Navy Department has announced that its policy, in line with legislation applying to the reserves as interpreted by the courts, will be a policy of conservation and that it will endeavor to keep as much of the oil in the ground for as long a time as possible.

"To that end, the Navy Department has closed in all of the 21 oil-producing wells on land in Reserve No. 1 whose output has heretofore been at the rate of 1,500,000 bbls. per annum. It has made arrangements with neighboring operators whereby the offsetting wells have either been also shut down, or the adjoining owner will pay to the United States 55 per cent of any increase in his production resulting from the shutdown of the Navy wells."

Power Band Wheel Has Diameter of 24 Feet With 28-Inch Face

What is said to be the largest all-metal band wheel pumping power ever built was completed recently at the plant of the Joseph Reid Gas Engine Co. in Oil City, Pa. This power was built for the Frick-Reid Supply Co., and will be installed on the lease of Group One Oil Co. at Santa Rita, Tex.

The complete installation will be one of the largest of its kind in the oil fields and will comprise in addition to the pumping power a Reid 65 horse power four-cycle gas engine and a 100 horse power electric motor, driving the power through counter shaft. While the number of wells to be pumped is not large, being 10, the power requirements, due to the amount of fluid to be handled, will be well over 100 horse power.

The power has been completely designed and built in the Reid factory. While the design follows that of the smaller type Reid powers the entire machine has been designed to handle the unusually heavy work which will be placed upon it. The weight of the complete power is approximately 20,000 pounds, while the center, composed of the base, shaft, eccentrics sleeve and wheel hub weighs 10,100 pounds.

24 Feet in Diameter

The wheel is 24 feet in diameter with a 28-inch face. The wide face is necessary to handle the wide belt which is to be used to drive the power. The Reid patented arrangement of spokes and angle driver is used, there being 12 angle drivers, 12 lower spokes and 24 upper spokes. The rim is made of steel sheets to which reinforcing angles are electrically welded.

The lubricating system of the power is designed to furnish a positive and continuous flow of oil to the bearing surfaces. Provision is made for the exact regulation of the quantity of oil flowing to the shaft and to eccentrics.

Particular care has been taken to make the power practically dust proof. A dust cover on the wheel hub and dust ledges on the eccentrics effectively exclude all dirt and sand from the lubricating oil and from between the bearing surfaces a particularly important advantage where the power is to be installed in sandy country.

Standard (Ind.) Will Explore Mississippi For Oil and Sulphur

CHICAGO, July 20.—As the result of an agreement between the Dixie Oil Co., a subsidiary of the Standard Oil Co. of Indiana and the Edward Hines Lumber Co. and associated interests, the southern part of the State of Mississippi is to be thoroughly explored for oil, salt and sulphur subsurface deposits. The Hines Lumber Co. is a very extensive holder of cutover pine lands in that State and prospects for securing some of the mentioned products in abundant quantities are such that the Standard Oil Co. was willing to do a certain amount of exploring. It is stated that the oil interests have not agreed, as has been rumored, to expend any such sum as was mentionted but that it was very largely a matter of using their own discretion. Work is to be begun at an early date. While there have been a number of wells drilled in the State there has never been any commercial production of oil.

WANT TAX MONEY FOR POLICE

CHICAGO, July 23.—The Chicago aldermen are trying to divert some of the receipts from the gasoline tax and license fees to pay for additional traffic police. The Corporation Counsel has been asked to render an opinion if it be possible to compel the state departments collecting the gasoline tax and the license fees for automobiles to pay over a portion of the receipts to employ additional police to handle the traffic on the city streets.

PIPE LINE NEARING COMPLETION

WEATHERFORD, Tex., July 23.—Work on the Gulf pipe line through Parker County is being completed this week and the men will move on to the east. Over 300 men have been at work on the line through the county during the last month. The big pump station at Brock, 10 miles southwest of here, is also nearing completion.

Hard Jobs Made Soft!

ALWAYS ready for a hundred and one jobs of lifting and conveying! Always ready to be moved here, there, anywhere they are needed! Always on the job and always doing the job quickly, easily and safely!

That's a brief, snappy explanation of what you get when you sign up "Matchless" Trolleys, "Cyclone" Hoists, and "Matchless" Derrick Cranes.

Ask Your Jobber

about the exclusive *GYRATING* principle of operation of "Cyclone" Hoists; the free and easy operation of "Matchless" Trolleys made possible by the patented and exclusive FLANGELESS WHEELS and other features; and the exceptional construction of "Matchless" Derrick Cranes which, for brute strength, are "Matchless" in *fact* as well as in name.

Get acquainted with these rugged, "built for service" material handlers. You'll know what we mean when they start working for YOU!

THE CHISHOLM-MOORE MANUFACTURING CO.
Main Office & Factory—Cleveland, Ohio
All Leading Oil Supply Jobbers Stock
"C-M" Overhead Material Handling Equipment

CHISHOLM-MOORE
OVERHEAD HOISTS CRANES TROLLEYS TRACK SYSTEMS

"A REAL OIL COUNTRY BELT"

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Pumping—Drilling — Compressor
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BELTS

RUGGED DURABLE

Not just A belt but a REAL POWER TRANSMITTER

ECONOMICAL

Manufactured by

IMPERIAL BELTING CO., Chicago

Sold by

OIL WELL SUPPLY CO.

In All Fields

SAFETY and SERVICE

are reflected in the sound condition of the Federal National Bank, whose financial statement follows:

Statement of the Condition of

The Federal National Bank

SHAWNEE, OKLAHOMA

As of Thursday, June 30, 1927

RESOURCES

Loans and Discounts		$ 391,587.55
Overdrafts		1,483.81
Bank Building and Fixtures		61,408.38
Other Real Estate		3,749.37
Federal Reserve Bank Stock		3,600.00
Commercial Paper and Demand Loans	$245,895.52	
New York Call Loans	300,000.00	
U. S. Bonds and Warrants	378,354.32	
Cash in Vault, U. S. Treasury and Other Banks	426,183.84	1,350,433.68
TOTAL		*$1,812,262.79*

LIABILITIES

Capital	$ 100,000.00
Surplus	20,000.00
Undivided Profits	15,159.70
Circulation	25,000.00
Bonds Deposited by Customers	6,550.00
DEPOSITS	*1,645,553.09*
TOTAL	*$1,812,262.79*

The above statement is correct,

J. F. BUCK, *President.*

Attest: Carlisle Nuckolls, E. C. Housh, Joe S. Ellis, *Directors.*

COST OF PIPE LINES TO BE MANY MILLIONS

(Continued from Page 174)

line from Chinook to Harve, but this line is listed in the 1926 annual report.

Projected Lines

A gas line from the Hiawatha and Baxter Basin fields, Wyoming, to Salt Lake City, Utah, is in prospect. This line would also serve Ogden, Utah. The Hope Engineering Co. is interested in the laying of this line and the Ohio Oil Co., the Prairie interests, through the Producers & Refiners and other large companies are considering the plan.

A line for this service would mean 16 and 12-inch pipe and it would be about 350 miles long.

Another large line is in prospect for the city of Denver and intermediate towns and cities between Amarillo and Denver, Colo. This line is being promoted by the Prairie and Cities Service interests.

A new line will be laid from the Cabin Creek wells on the Baker-Glendive anticline in eastern Montana, to Miles City, to supply gas to the latter point. This line will be 8-inch plain end pipe welded and the length is 70 miles. Hope Engineering Co. is to do the work.

A pipe line from the LaBarge Field, Lincoln County, Wyoming is in prospect, the California Petroleum Co. is to lay the line to carry oil from the fields to a point on the railroad. This line will be 40 miles long and 6-inch pipe.

A line is in prospect from the Midwest strike on the Iles Dome, Moffat County, Colorado, to Craig. This will be an oil line to carry the Midwest Refining Co.'s crude to the railroad at Craig.

The Texas Company now has a pipe line in operation between Moffat Field and Craig, it is reported that this oil line will be extended to the Marland gas wells south of Moffat Field and will be used to supply gas for the town of Craig and the refinery at that point and that a new line will be laid to carry the oil from Moffat to the refinery. Also it is reported that The Texas Company is considering laying a line from the Tow Creek Field to Craig, a distance of 30 miles.

New Oklahoma Lines

The spring of 1927 marked the construction of several new pipe line systems into the Seminole area in Oklahoma, and the amplification of several systems which were in the field at the start of the year, and aside from that there were very few pipe line projects in Oklahoma.

The largest individual pipe line extension was that of the Oklahoma Pipe Line Co. of Muskogee, Okla., which laid a 10-inch line from the Council Hill station of its old line from Drumright to DeQueen, Ark., to its Lima station on the outskirts of the Seminole Field. This line was equipped with electrical main line pumps, and represented an expenditure of approximately $750,000. Combined with the Oklahoma's old system in the Seminole Field it gave this company an outlet for 90,000 bbls. of crude daily and established it as the largest system in the field.

The Shaffer Oil & Refining Co. laid a 6-inch line from its old system in the Cromwell Field to Seminole in order to handle the output of its Lacey lease in the Bowlegs Pool of the field. This company has a capacity of 8,000 bbls. daily.

The Empire Gas & Fuel Co. through its subsidiary concern, the Empire Pipe Line Co., constructed a 10-inch line from the Beggs Field all the way to Seminole, following the route of its former system from Beggs to Cromwell. It also has a 50,000-bbl. capacity in the field, and will in time probably take care of a large part of the Indian Territory Illuminating Oil Co.'s output which is now the largest individual production in the field.

The Gulf Pipe Line Co. built an 8-inch line from its station east of the city of Henryetta, in Okmulgee County during last winter, and this spring it sold its former system from Cromwell to Seminole to the Texas Pipe Line Co., which has since operated it, taking about 15,000 bbls. of oil daily through this line. The Texas Company now has a large production of its own which taxes the capacity of the line.

The Pure Oil Co. extended its pipe line system from the Okmulgee oil field in Okmulgee County to Seminole, by the building of a 6-inch line. The feature of this line was that not a single joint of new pipe was purchased for its construction, but the company used old pipe which had been in storage, and took up some unused lines, and furnished sufficient pipe to complete the new line. It has a capacity of 15,000 bbls. daily.

The Consolidated Pipe Line Co. (owned partly by the Pierce Petroleum Co.) built a 4-inch line from the Cromwell Field to Seminole. It is possible that this line may ultimately be extended to the new Pierson Pool in Section 30-7-4, Pottawatomie County.

Regarding the Pierson Pool, in Pottawatomie, the Prairie Pipe Line Co. built a 4-inch line from Seminole to this operation, and is taking care of the bulk of the output of this small pool; the balance being shipped by tank car.

The White Oak Refining Co. at Allen, Okla., contracted with the Amerada Petroleum Corp. for part of the latter concern's production at Seminole, and built a 4-inch line from the refinery to Seminole. It is handling about 3,000 bbls. through this line.

The Ozark Pipe Line Co. (Roxana), extended its system from Cromwell to the Seminole area and has a line capacity of 16,000 bbls. daily.

The only other extension of note in Oklahoma during the first half of the year is the building of the Ozark Pipe Line from the limits of the Garber Field in Garfield County to the new strike of the Roxana Petroleum Corp. in Section 30-19-4w, Logan County.

Little Work in East

In the eastern fields there was very little doing in the way of pipe line construction. The old fields are well provided with facilities for taking care of the oil produced and there are no new fields. The only pipe line work completed in the local fields was about 6 miles of 4-inch from Nedskey to Pittsburgh.

The United Fuel Gas Co. is laying a 20-inch line from its trunk line in West Virginia down into Kentucky, a distance of 60 miles. When completed gas will be transported through the new line to its main system, ending in southwest Pennsylvania. The cost of the line into Kentucky is estimated at approximately $1,500,000.

In West Virginia, the Philadelphia company is laying 9 miles of 20-inch line between Cedarville and Burnsville.

SEMINOLE'S RAPID RISE TO SUPREMACY

(Continued from Page 100)

and it is apparent now that the Little River Pool will be drilled up regardless of agreements.

Speculations as to the future of the field is rife, but at this critical point little can be foreseen. The future depends upon the Earlsboro sector more than on any other. It was formerly thought that Earlsboro would never touch 100,000 bbls. and it was making 175,000 bbls. on July 23.

With 470 active drilling operations in the area, the future of the field is in the outside wells now drilling, and with the success of the air-lift in flowing wells of small daily yield, there is some reason to believe that the decline in the older parts of the field will be more slow than the decline of Seminole. A peak production of 550,000 bbls. now seems very plausible, if action is not taken to prevent it.

DISMANTLING STATION

HOUSTON, Tex., July 23.—The Humble Oil & Refining Co. is taking up the 8-inch water line and dismantling the pumping plant on the banks of the Trinity River 5 miles east of Kerens. The station and line was used to pump water for drilling purposes during the boom days in the Mexia and Powell Fields.

Geophysical tests are being made by the Gulf Production Co. on a block of 6,000 acres in the vicinity of Saline Dome, 5 miles east of Lindale, Smith County, in northeast Texas.

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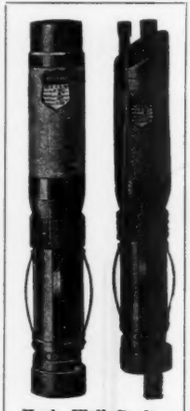

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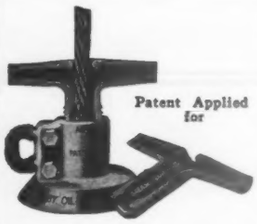


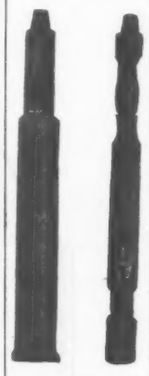
Patent Applied for

Common Style Larkin-Rigby Oil Saver, Showing Steel Hollow Top Grease Cup.

Automatic Style Larkin-Rigby Oil Saver

Patented 1914

California Style Larkin-Rigby Oil Saver



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Our Bulletin No. 30 describes *The Larkin Line* Write for it.

OKLAHOMA FIELDS

(Continued from Page 52)

The rig has also been moved out for No. 4 Roger, SE cor. NE SE Section 5-9-5. Magnolia Petroleum Co. is building the rig for No. 5 Bryant, NW cor. SE NW Section 9-9-5. Location has been made for No. 6 Bryant, SW cor. SE NW Section 9-9-5. Mid-Continent Petroleum Co. made location for No. 8 McKinley, NW cor. NE SW Section 9-9-5. Tidal Oil Co. is erecting the rig for No. 7 Watkins, NE cor. NW NW Section 9-9-5. The location was made for No. 8 Watkins, SW cor. NE NW Section 9-9-5. Magnolia Petroleum Co. is building the rig for No. 1 Harper, NW cor. NE Section 19-7-5. The rig is being built for No. 1 Robinson, SE cor. SW SE Section 15-7-4, St. Louis Field. Continental Oil Co. is putting up the rig for No. 2 Doyle, SE cor. NE SW Section 19-7-4, Pearson Pool. Twin State Oil Co. is building the rig for No. 3 Spangy, NW cor. SW SE Section 19-7-4. Location has been made for No. 4 Spangy, SW cor. NW SE Section 19-7-4.

Amerada Petroleum Corp.'s No. 1 Leah, NE cor. NW SE Section 24-8-4, had the top of the Wilcox sand at 4,506 feet, drilled to 4,530 feet where water was found and after plugging back to 4,307 feet it is producing 53 bbls. from the Misner sand at 4,170-80 feet. Continental Oil Co.'s No. 1 Doyle, SW cor. NE SW Section 19-7-4, Pearson Pool, was shot with 140 quarts in the Hunton lime at 3,778-3,923 feet and made 1,315 bbls. initial.

Amerada Petroleum Corp.'s No. 2 Cowden, SW cor. SE SW Section 4-9-5, Earlsboro Pool, had an initial production of 13,040 bbls. from the Wilcox sand at 4,400-15 feet where it was shot with 30 quarts. The Texas Company's No. 1 Roger, SE cor. Section 5-9-5, was shot with 20 quarts in the Wilcox sand at 4,353-73 feet and flowed an initial of 12,292 bbls.

Seminole County

Barnsdall Oil Co. made location for No. 5 Ingram, NE cor. SW SW Section 1-9-5, Earnsboro Field. Location was also made for No. 6 Ingram, SE cor. NW SW Section 1-9-5. Carter Oil Co. made locations for No. 2 Sango, SW cor. NE SW and No. 3 Sango, SW cor. SE SE Section 1-9-5. Shaffer Oil & Refining Co. has moved the rig out for No. 5 Clark, SE cor. SW SE Section 1-9-5. The Texas Company has moved the rigs out for No. 2 Anderson, SE cor.; No. 3 Anderson, SW cor. SE SE, and No. 4 Anderson, SE cor. SW SE Section 2-9-5. Twin State Oil Co. made location for No. 2 Hearn, SW cor. NE SE Section 2-9-5. Barnsdall Oil Co. made location for No. 2 R. Cudjo, SE cor. NW SW Section 3-9-5. Location has also been made for No. 2 N. Sullivan, NW cor. NE SW Section 10-9-5. Magnolia Petroleum Co. has the tools in to deepen No. 3 Simpson, NE cor. SW SE Section 10-9-5.

The Texas Company has the rigs on the ground for No. 7 Brown, SW cor. SE NW, and No. 8 Brown, SE cor. SW NW Section 10-9-5. Locations have been made for No. 6 Wilmott, NE cor. SE, and No. 7 Wilmott, NW cor. NE SE, Section 10-9-5. The rig has been moved to the location for No. 8 Wilmott, SW cor. NE SE Section 10-9-5. Gypsy Oil Co. made location for No. 8 Carter, NE cor. SE NW Section 11-9-5. The Prairie Oil & Gas Co. is moving in the rig for No. 11 Stidham "A," NW cor. SW NE Section 11-9-2. Location has been made for No. 4 C. Graham, SW cor. NW SE Section 3-9-5. Barnsdall Oil Co. made location for No. 3 Wasutke, SE cor. NE SW Section 12-9-5. Gypsy Oil Co. is erecting the rig for No. 4 Noble, NE cor. SW NE Section 12-9-5. Magnolia Petroleum Co. has the rig up for No. 3 Dixon, NE cor. SE SW Section 12-9-5. Twin State Oil Co. has made location for No. 3 Barker, NE cor. NW NE; No. 4 Barker, SE cor. NW NE, and No. 5 Barker, SW cor. NE NE Section 12-9-5. Carter Oil Co. has dug the cellar for No. 1 Davis, NW cor. SW NW Section 13-9-5. The Prairie Oil & Gas Co. made location for No. 4 C. Davis, SW cor. NW NW Section 13-9-5.

Twin State Oil Co. is building the rig for No. 2 Jeming, NW cor. SE NW Section 4-9-6, Searight Pool. Barnsdall Oil Co. has moved the tools in to deepen No. 1 Henry, SE cor. SW SW Section 14-9-6, Seminole Pool. Atlantic Oil Producing Co.'s No. 1 Baker, SW cor. SE SE Section 10-8-6, Bowlegs Pool, is cleaning out after a shot of 10 quarts in preparation to complete after deepening from 4,031 feet to 4,094 feet. Tidal Oil Co. is building the rig for No. 5 Harjoche, SE cor. NW SW Section 10-8-6. The Prairie Oil & Gas Co. made location for No. 8 Harber, NE cor. SW SW Section 10-8-6. The rig is being moved in for No. 4 Jones, NW cor. SW SE Section 11-8-6. Carter Oil Co. made location for No. 1 Jones, NW cor. SE SE Section 11-8-6. Location has also been made for No. 2 Jones, SE cor. Section 11-8-6. Gypsy Oil Co. moved the rig out for No. 2 Grayson, NW cor. Section 13-8-6. Location has been made and the cellar dug for No. 3 Grayson, SE cor. NW NW Section 13-8-6. Tidal Oil Co. has moved out the rig for No. 2 Grayson, NE cor. NW Section 13-8-6. Blackwell Oil & Gas Co. made location for No. 6 Nitey, SW cor. NE SE Section 35-8-6, in the Little River area.

Twin State Oil Co. is putting up the rig for No. 2 Hyde, NE cor. SW Section 2-7-6, Little River Pool. Rig is also being built for No. 1 Hyde, SE cor. NE SW Section 2-7-6. Indian Territory Illuminating Oil Co. made location for No. 3 Nitey, SW cor. NE Section 2-7-6. Barnsdall Oil Co. made location for No. 1 Davis, SE cor. NW Section 2-7-6. The Prairie Oil & Gas Co. is moving in the rig for No. 1 Owen, NW cor. SE NE Section 18-8-6.

Independent Oil & Gas Co. abandoned the location for No. 3 McDaniel, NE cor. NW SE Section 7-9-8. Empire Gas & Fuel Co.'s No. 1 Sturgeon, SW cor. NE SE, Section 7-8-6, has been abandoned at 4,339 feet in the Wilcox sand. Gypsy Oil Co.'s No. 1 Sewell, NE cor. NW Section 22-8-8, topped the sand at 3,308 feet where it has been completed for 40,500,000 feet of gas. Shaffer Oil & Refining Co.'s No. 11 Jones, NW cor. SE NW NW Section 32-8-8, Wewoka Pool, has been completed for 2,160 bbls. in the Wilcox sand at 4,225-41 feet. Central National Oil Co.'s No. 4 Dunn, SW cor. NW SE Section 4-10-8, Cromwell Pool, has been deepened to 4,294 feet in the Wilcox and abandoned. Indian Territory Illuminating Oil Co.'s No. 1 Livingston, SE cor. NW Section 15-8-6, Bowlegs Pool, had an initial production of 635 bbls. from the second Wilcox sand at 4,235-42 feet.

Empire Gas & Fuel Co.'s No. 1 Edmundson, SE cor. SW Section 3-9-5, Seminole Pool, had the top of the Wilcox sand at 4,255 feet, drilled to 4,267 feet but production was not increased above 5,827 bbls., which it flowed at 4,261 feet. The Prairie Oil & Gas Co.'s No. 7 Harber, NW cor. SW SW Section 10-8-6, was completed for 1,500 bbls. in the Wilcox sand at 3,960-4,008 feet. Indian Territory Illuminating Oil Co.'s No. 2 Barnett, SW cor. NW Section 24-8-6, has been completed for 1,775 bbls. from the Wilcox sand at 4,395-4,404 feet. No. 1 Barnett, NW cor. SW NW Section 24-8-6, made 796 bbls. from the Wilcox sand at 4,434-40 feet. Sinclair Oil & Gas Co.'s No. 4 Wulker, SW cor. NE NE Section 22-8-6, was shot twice in the Wilcox sand at 4,158-95 feet and produced 2,475 bbls. Mid-Continent Petroleum Corp.'s No. 1 Bowlegs, NE cor. SW Section 22-8-6, swabbed 450 bbls. from the Wilcox sand at 4,245-83 feet. Indian Territory Illuminating Oil Co.'s No. 6 Bowlegs, SE cor. NW NE Section 22-8-6, had the Wilcox sand from 4,303 feet to 4,323 feet and made 2,151 bbls. after a shot of 20 quarts. Pure Oil Co.'s No. 1 Strothers "E," SE cor. SW NE Section 16-8-6, is pumping 25 bbls. from the Hunton lime at 4,078-82 feet.

Marland Oil Co.'s No. 1 Jones, NE cor. SW SE Section 16-8-6, Bowlegs Pool, lost the hole and has been abandoned at 4,180 feet. The Prairie Oil & Gas Co.'s No. 3 C. Davis, NW cor. Section 13-9-5, Earlsboro Pool, made 6,940 bbls. from the Wilcox sand at 4,303 feet, just in the top. Continental Oil Co.'s No. 2 Hollins, SW cor. SE NW Section 12-9-5, has been completed for 9,561 bbls. in the Wilcox sand at 4,242-74 feet. Magnolia Petroleum Co.'s No. 3 Holmsley, CNL SE SE Section 11-9-5, had an initial production of 3,880 bbls. from the Wilcox sand at 4,280-88 feet.

Gypsy Oil Co.'s No. 2 Carter, SE cor. NW Section 11-9-5, topped the Wilcox sand at 4,360 feet, drilled in to 4,374 feet and produced 1,440 bbls. Barnsdall Oil Co.'s No. 3 Peter, NE cor. SE SW Section 10-9-5, had an initial production of 150 bbls. from the Wilcox sand at 4,308-22 feet. No. 4 Pack, SW cor. SE SE Section 10-9-5, made 2,808 bbls. from the Wilcox sand at 4,382-92 feet. Amerada Petroleum Corp.'s No. 8 Anderson, SE cor. SW NW Section 15-9-5, is dry and abandoned in the Wilcox sand at 4,255-4,355 feet. Carter Oil Co.'s No. 3 Frazier, NE cor. NW NW Section 3-9-6, Searight Pool, has been shut in for 35,000,000 feet of gas in a stray sand at 3,736-43 feet. No. 6 Frazier, SE cor. NE NW Section 3-9-6, made 735 bbls. from the Wilcox sand at 4,393-4,424 feet. Barnsdall Oil Co.'s No. 2 Henry, SW cor. Section 14-9-6, Seminole Pool, is making 1,082 bbls. from the Hunton lime at 4,058-86 feet. No. 1 Cudjo, SE cor. NW Section 31-9-6, is dry and abandoned at 4,325 feet in the Wilcox sand. Carter Oil Co.'s No. 1 Pounder, NE cor. SE SE Section 34-9-6, made 275 bbls. from the Wilcox sand at 4,100-4,250 feet. Empire Gas & Fuel Co.'s No. 3 Wilson, NW cor. NE Section 34-9-6, topped the Wilcox sand at 4,130 feet, drilled to 4,338 feet where water was found and plugged back to 4,280 feet where it was shot twice without results and then abandoned. McCulloch Oil Co.'s No. 4 Butler, SE cor. NE Section 35-9-6, has been abandoned at 4,625 feet in the Wilcox sand.

Sinclair Oil & Gas Co.'s No. 6 Cudjo "A," SE cor. NW NW Section 35-9-6, swabbed 130 bbls. from the second Wilcox sand at 4,226-43 feet. Tidal Oil Co.'s No. 2 Harjoche, NE cor. SW Section 10-8-6, has been completed for 2,100 bbls. from the Wilcox sand at 4,050-68 feet. The Texas Company's No. 4 Reed, NE cor. SW NE Section 14-8-6, had the top of the Wilcox sand at 4,174 feet, drilled to 4,219 feet and made 3,850 bbls. after three shots. Gypsy Oil Co.'s No. 8 Walker, SE cor. NW SW Section 15-8-6, made 645 bbls. from the Wilcox sand at 4,390-4,408 feet. Indian Territory Illuminating Oil Co.'s No. 11 Livingston, NE cor. NW NW Section 15-8-6, flowed 1,759 bbls. from the second Wilcox sand at 4,169-73 feet. No. 5 Livingston, NE cor. NW Section 15-8-6, was completed for 3,319 bbls. from the second Wilcox sand at 3,985-4,010 feet. No. 4 Wilmouth, SE cor. NE NE Section 15-8-6, went into the second Wilcox sand at 4,202 feet, drilling to 4,205 feet and plugged back to 4,186 feet where it made 1,291 bbls.

Latimer County

Limestone Oil & Gas Co.'s No. 1 Murray, SW cor. Section 15-5-18, is drilling at 700 feet.

ROCKY MOUNTAIN AREA

(Continued from Page 61)

34-62, on the Garcia Dome. Four wells are scheduled for this structure where it is hoped to develop gas production.

Montana Producers

What appears to be a commercial producer from a stray sand at the base of the Ellis has been developed by the Genou Oil & Gas Co. of Great Falls, drilling on the Bannatyne structure. The well is 40 miles north of Great Falls, near the south end of the Sweetgrass Arch, and is 65 miles from the nearest producing well. This is one of the structures selected by Ralph Arnold for development, and is the second to show for commercial production. The oil was found at a depth of about 1,445 feet, and about 80 feet above the Ellis-Madison contact where the big production of the Kevin-Sunburst Field has been found. The oil shows a gravity of 27.4 degrees with a gasoline content of 18.4 per cent, which is about the quality of the Kevin-Sunburst crude. It is probable that the well will be continued to the Ellis-Madison break.

A number of completions were reported from the Kevin-Sunburst Field. The best of these was the "56" Petroleum Co.'s No. 28 Caine, on Section 32-35-1, which is reported a 75-bbl. well. The Barmac Oil Co. brought in a 20-bbl. well on Section 30-35-1, and the Homestake Exploration Co.'s No. 32 State is reported a 20-bbl. producer. The Sunburst Oil & Gas Co. completed a 7,000,000-foot gas well on Section 1-32-2, and the Ohio Oil Co. reports a 5-bbl. well in its No. 2 Norum. Medford Oil Co.'s No. 4 Morton, on Section 24-34-2, will make a 20-bbl. producer, and the Hill O'Neil Lorenson No. 14, on Section 27-35-2, reports both oil and water in the Madison lime. The California Co.'s No. 11 Lorenson, in the famous Moe-Lorenson Pool, was a duster.

Cat Creek Area Quiet

The Cat Creek Field is very quiet, dry holes have nearly ringed this field and the geology has been worked out until the undersurface is known over all the producing area.

The field lies on the anticline running northwest and southeast from about the corner of Townships 14 and 15; Ranges 30 and 31. This structure is plain to the trained eye of the geologist, but it is not by any means productive over its whole area, the producing wells are found upon domes superimposed on this main anticline and wells merely located on the main anticline between these superimposed structures have come in dry.

Nor are all of the domes productive. In what is generally classed as the Cat Creek area there are nine of these domes on the regular anticline. Starting at the southeast end is the East Dome, then the Mosby Dome and then the Cat Creek Dome and field proper, beyond Cat Creek Dome lies the West End Dome, the Oiltana Dome, the Brush Creek Dome, Kootenai, Box Elder and Bear Creek. At present only the Cat Creek Dome is productive while dry holes have resulted from the drilling on all the others.

There still appears to be some hope in the minds of the oil operators at Cat Creek that deep drilling may result in the finding of oil there in deep pools and there is some basis for this because in several places in Montana, wells that were drilled to the Devonian formation have found showings of oil and gas that indicate this great horizon may hold oil in paying quantities. This is a matter that can only be tested by the larger oil firms for the wells would have to be drilled very deep and would be costly.

The Cat Creek Field is not applicable for either the gas lift or the gas drive and neither method has been tried out here except in a small way to show its failure.

Interesting Wildcat

One of the most interesting wildcats drilling in Montana at this time is the Ohio Oil Co.'s test on the Dry Creek Dome, about 7 miles southwest of Bridger, Carbon County. The location is on Section 11-7-21 and the Ohio Oil Co. has some 9,000 acres in a solid block on this structure, much of this land belonging to the Northern Pacific Railroad.

This is the wildcat that is using an electric drive for the work instead of steam or internal combustion engine. It is being drilled with cable tools, but the hole appears to be able to stand up with a rotary so in case the structure proves productive, rotary outfits may be used on future wells. The hole is now at 825 feet so that no conclusive reports on the sands is to be had. This well may go to 5,000 feet if nothing commercial is found.

The Montana Railroad Commission traveled to the Sunburst Field Tuesday, July 12 and held a hearing at Shelby where the oil operators stated their grievances. It developed that there was decided opposition to the regulations for mudding off wells as drawn up by the railroad commission and the matter was aired by a general discussion.

According to the statements made by many oil operators and representatives of the larger oil firms, the mudding off of certain horizons will work a damage on the operator by shutting off his gas supply. This is considered especially true of the Colorado shales near the surface in Sunburst.

Lee Yealy of the Ohio Oil Co. stated

that it was useless to make the operator mud off the upper sands at this time while the older wells in the field, comprising some 1,200 wells, would not be touched.

The matter of obtaining suitable mud to comply with the new regulations brought about considerable argument. It appears from the operators' statements that there was no mud suitable for the purpose, to be had during the drilling and that to comply with regulations as they stand, the oil men must haul mud to their wells. This entails a cost of about $400 per well on each well drilled and in the cold months of the year the costs would become prohibitive.

The commission did not make any decision in the matter but drove out over the field and then left for home.

Runs for the Week

Salt Creek	43,640
Teapot	1,250
Big Muddy	2,940
Grass Creek	2,720
Elk Basin	980
Greybull	20
Rock River	2,810
Rex Lake	90
Dutton Creek	40
Notches	170
Lance Creek	610
Poison Spider	1,420
LaBarge	360
Osage	360
Hamilton Dome	1,190
Mule Creek	690
Lander	290
Byron	50
Lost Soldier	2,820
Ferris	60
Simpson Ridge	60
Cat Creek	2,190
Lake Basin	110
Sunburst	13,500
Iles Dome	490
Moffat	1,508
Walden	49
Florence	922
Tow Creek	835
Fort Collins	3,546
Boulder	25
Rangeley	100
Hogback	390
Rattlesnake	370
Table Mesa	320
Artesia	1,700
Total	88,625

INSTITUTE WORKING ON CO-OPERATIONS

(Continued from Page 40)

ask himself whether he does not owe some obligation to his neighbor as well as to himself, whether there may not be both dividends and profits in giving a practical application of the golden rule to the production of oil. Few people throughout the ages have ever had it fail them even in a monetary way. Whoever heard of anybody going to the poorhouse because of a sound application of principles of the Bible. Page the poorhouse and see!

CELEBRATION AT CUBA OF DISCOVERY OF OIL

Celebration at Cuba

CUBA, N. Y., July 23.—The three hundredth anniversary of the journey of Joseph de la Roche d'Allion, the Franciscan friar who is reputed to have been the first white man to discover petroleum on the North American Continent, was celebrated here today with a program prepared by the New York State Oil Producers Association and the University of the State of New York. Represented on it were the Seneca Indian nation, descendants of the tribes which controlled the Oil Spring and for untold generations held it in religious awe as a special manifestation of the Great Spirit; the Franciscans, or Order of Friars Minor, one of whose number, Father d'Allion, then a missionary among the Indians, was the first white man to learn of the existence of the spring and wrote about the oil just 300 years ago; and the petroleum industry, which, from the humble beginning when the red men trafficked in the output of the spring as "good medicine," has grown to be one of the most necessary industries of the modern world.

A large number of Seneca Indians from the neighboring reservations attended, and a band of some 50 performed a war dance around the spring in full costume, after the manner of their ancestors 300 years ago. The tribe was represented on the speaking program by Theodore Francis Jemerson, a full-blood Seneca, famous as an orator among his own and other tribes.

The Rev. Father Bonaventure McIntyre of the monastery in Winsted, Conn., made the address for the Franciscans. He was formerly professor of theology at St. Bonaventure college in Allegany.

A notable contribution was the singing by the famous choir of male voices from the St. Bonaventure monastery.

Robert L. Welch, of New York City, secretary and general counsel of the American Petroleum Institute, spoke on behalf of the oil interests.

STATEMENTS IN REGARD TO OIL CONTROVERSY

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been issued by the Standard Oil Co. of New Jersey and the Vacuum Oil Co.:

Standard of New Jersey Statement

"Newspaper dispatches, undoubtedly emanating from Russian sources, report negotiations by which a quantity of Russian oil is being purchased by the Standard Oil Co. As a result the impression has been created, both in Europe and in this country, that the Standard Oil Co. of New Jersey, in the face of the present overproduction in the United States, is buying Russian oil to displace products of American origin in the European markets supplied in part by its foreign subsidiaries. The impression that the Standard Oil Co. of New Jersey has any trade relationship with the Soviet Government is incorrect.

"The Soviet Government seized all of the producing oil wells and refineries and assumed full proprietary rights over the private property represented by the oil industry in Russia., without any pretense of compensation. Subsequently the Soviet Government tried to raise capital abroad by selling oil which it had thus confiscated. Efforts were made to open a regular market for Russian oil products with various interests, including European subsidiary companies of the Standard Oil Co. of New Jersey.

"At that time the Standard Oil Co. of New Jersey made it clear that it would not enter into any negotiations with representatives of the Soviet Government looking to the purchase of oil without assurances that claims of the rightful owners of the properties would be met. It took the position that if it participated in the sale of Russian oil, a part of the proceeds therefrom should be allocated to the indemnification of the former owners. As the Soviet Government was unwilling to agree that private property rights should be thus recognized, negotiations terminated and have not since been resumed with the Standard Oil Co. of New Jersey or any of its foreign subsidiaries.

"Some confusion may have resulted from the fact that there are now various separate and independent companies, which either bear the Standard Oil name or are popularly characterized in that manner, and it therefore seems advisable that the position of the Standard Oil Co. of New Jersey in this Russian matter be defined as above."

Statement by Vacuum

G. P. Whaley, president of the Vacuum Oil Co., issued the following statement:

"Recent newspaper articles in which mention is made of purchases of Russian oils by the Vacuum Oil Co. permit of misleading inferences. Since the interests and problems of the different oil companies are not identical, it is understandable that there should be a divergence of interest and a consequent difference in judgment as to individual policy in connection with trade with Russia, but that these differences should engendera any ill will is inconceivable. So far as the Vacuum Oil Co. is concerned, such an inference is absolutely without basis.

"There are those who hold it unrighteous to buy petroleum from Russia on the theory that to do so would be to purchase goods wrongfully confiscated from Russian subjects by the present governing power. If that view should generally prevail, then Russia could export nothing, as not only petroleum but other industries in Russia were nationalized. Is it more unrighteous to buy from Russia than to sell to it? Considerable purchases are made by Russia in the United States of cotton and other products.

"The Vacuum Oil Co. believes that trade contacts with Russia will make for wholesome reconstruction, and, further, that it is only common sense to recognize that Russia is the economic source of supply for certain markets. An opportunity given to Russia to dispose of some of its surplus in its natural markets will avoid such surplus being forced into competition with American products in markets where transportation costs are in favor of the United States.

Purchases to Be Continued

"The Vacuum Oil Co. has believed it good policy to draw supplies from the most economic source, giving preference at all times to American supplies. In accordance with this policy purchases from Russia will continue so long as supplies are available on proper terms and of proper quality, for those markets where Russia is undisputably the natural and economic source. Prior to the availability of Russian products for these markets supplies were drawn from other sources in the Near East, such as Rumania and Galicia, but not from America, because transportation costs made American oils prohibitive.

"The Vacuum Oil Co., for a number of years prior to the Russian revolution, was doing an extensive refining and marketing business in Russia, involving an investment of many millions of dollars. As a consequence, we were substantially affected by the nationalization of the petroleum industry. We believe that with the sole exception of the Standard Oil Co. of New York, which owned some tank storage properties in Russia, the Vacuum Oil Co., at the time of the nationalization of industry by the Soviet Government, was the only American oil interest having vested ownership directly or indirectly in the Russian petroleum industry. It is therefore obvious that we are directly interested in the matter of compensation. We expect in due course of time to negotiate for compensation covering the large values that were taken over at that time, and to make satisfactory recovery, but this can be in time best adjusted without involving the question of either buying from or selling to Russia."

Deterding's Criticism

Sir H. W. A. Deterding, chairman of the Royal-Dutch company, in a statement issued to the American press today disputes the Vacuum Oil Co.'s position in connection with the Vacuum company and Standard Oil Co. of New York purchase of Russian oil, saying this oil chiefly affects the American oil outlet because of overproduction in this country.

"Why," his statement says, "does not Vacuum and Standard of New York state the truth, namely, that as they fancy it pays them better to deal in cheap Russian oil, they do not care for the rest of the world and specially not for the American oil producers."

He says that Russian inhabitants are crying out for fuel and kerosene. "If Vacuum, therefore, would, instead of helping to create surpluses, use its energies to help Russia and humanity by putting trade conditions right in Russia it could then not only arrive at the cancellation of Vacuum's contract but also help to diminish the American surplus production."

PANHANDLE FIELDS

(Continued from Page 48)

definite marker, is expected to be found around 2,650 feet. The test is east of the town of Dumas.

Moore County's single producer, Morton & Co.'s No. 1 Reeder, Section 191, Block 3-T, is generally regarded as a 200-bbl. well. It is being produced with air lift. With air the hole has paraffined up rapidly, but it is believed that with the use of gas the paraffin will be kept moving. Plenty of gas is available. Operators are still experimenting to determine the proper air or gas pressure to produce the well.

Sanford Area

Two wells were completed in the Sanford area during the week, one making 400 bbls. initial, the best completion in that area in several weeks. Another completion making more fluid was recorded, but 75 per cent of the fluid was salt water. Prairie Oil & Gas Co.'s No. 2 Sanford, Section 85, Block 46, which caught fire while making 60,000,000 feet of gas and was shot out a few days later, was shut in the latter part of the week. A master gate was placed on the well, which has been blowing in the air several days.

Empire Gas & Fuel Co. announced locations for six new wells in Carson County, which are listed below. These locations will mark the starting of the Empire company's drilling of the 64,000 acres leased from the Burnett Estate a few days ago. This acreage is expected to be developed into a large gas reserve for the Empire company, which is building a 20-inch gas line to Kansas City, Mo., and which is interested in the proposed line from Panhandle to Denver, Colo.

Locations held up are No. 4 Burnett Estate, Section 45; No. 5 Burnett Estate, Section 63; No. 6 Burnett Estate, Section 62, and No. 8 Burnett Estate, Section 40, all in Block 5. It is reported the Burnett Estate will receive 3 cents per 1,000 feet of gas produced the first two years, 3½ cents per 1,000 feet the next three years, and 4 cents per 1,000 feet thereafter.

Carson County

On the southeast side of the Roxana Pool, in northeastern Carson County, Magnolia Petroleum Co.'s No. 3 fee, 244, Section 91, Block 4, I. & G. N. Survey, made 185 bbls. initial from granite wash pay at 3,125-65 feet. In the same area, Marland Oil Co.'s No. 3 C. R. Garner, Section 93, Block 4, had the pay in lime and granite wash at 3,144-85 feet and had an initial production of 15 bbls.

Gray County

The junking of C. B. Shafer's No. 1 G. Cole, SE cor. W half SW Section 105, Block 3, at 3,313 feet, was the only completion in that active area during the week. The well had 2,000 feet of oil in the hole, but an extremely bad fishing job for pipe caused the operator to junk the hole. The well is in semiwildcat territory northwest of the Pampa Pool.

Hutchinson County

One of the best wells to be completed in the Sanford area was the completion of the Alamoso Oil Co.'s No. 1 J. M. Sanford, Section 83, Block 46, H. & T. C. Survey, made 400 bbls. the first 24 hours and was completed a 100-bbl. well on the swab at 2,962-96 feet. McMillan Oil Corp.'s No. 1 Sanford, Section 82, Block 46, H. & T. C. Survey, in the Sanford area, was put on gas lift and is making 20 bbls. of fluid per hour, 75 per cent salt water, from lime pay at 2,981 to 3,021 feet. Southwest of the present limits of the McIlroy Pool in the southeastern part of the county, Gwynn & McKnight's No. 3 Ellis Cockrell, Section 1, Block Y, M. & C. Survey, had the pay in lime at 2,903 to 3,017 feet and was shot with 300 quarts at 2,903-98 feet to swab 50 bbls. initial. In the Borger area, Phillips Petroleum Co.'s No. 5 Johnson Brothers (Williams), Tract 7, Mary Whitley Survey, sawbbed 200 bbls. initial after a 90-quart shot in lime at 2,936-68 feet. In the same area, Phillips Petroleum Co.'s and Coble's No. 31 J. A. Whittenberg, Section 13, Block Y, M. & C. Survey, swabbed 200 bbls. initial after two shots. The first was 60 quarts at 2,932-53 feet, and the second was a 20-quart shot at 2,917-22 feet, total depth 2,957 feet.

Wheeler County

Three gas well were completed in Wheeler County during the week. West of Shamrock American Refining Co.'s No. 1 E. E. Carlton, Section 29, Block 13, was plugged back from 2,255 feet to 2,027 to 2,100 feet and completed as an 8,000,000-foot gas well. The Texas Company's No. 1 E. P. Sewell, Section 1, Block 24, H. & G. N. Survey, gauged 47,000,000 feet of gas at 1,850-60 feet. J. J. Rook's No. 1 Mertel, SE NE Section 4, Block 24, H. & G. N. Survey, was completed as a 40,000,000-foot gas well at 1,880 to 1,985 feet.

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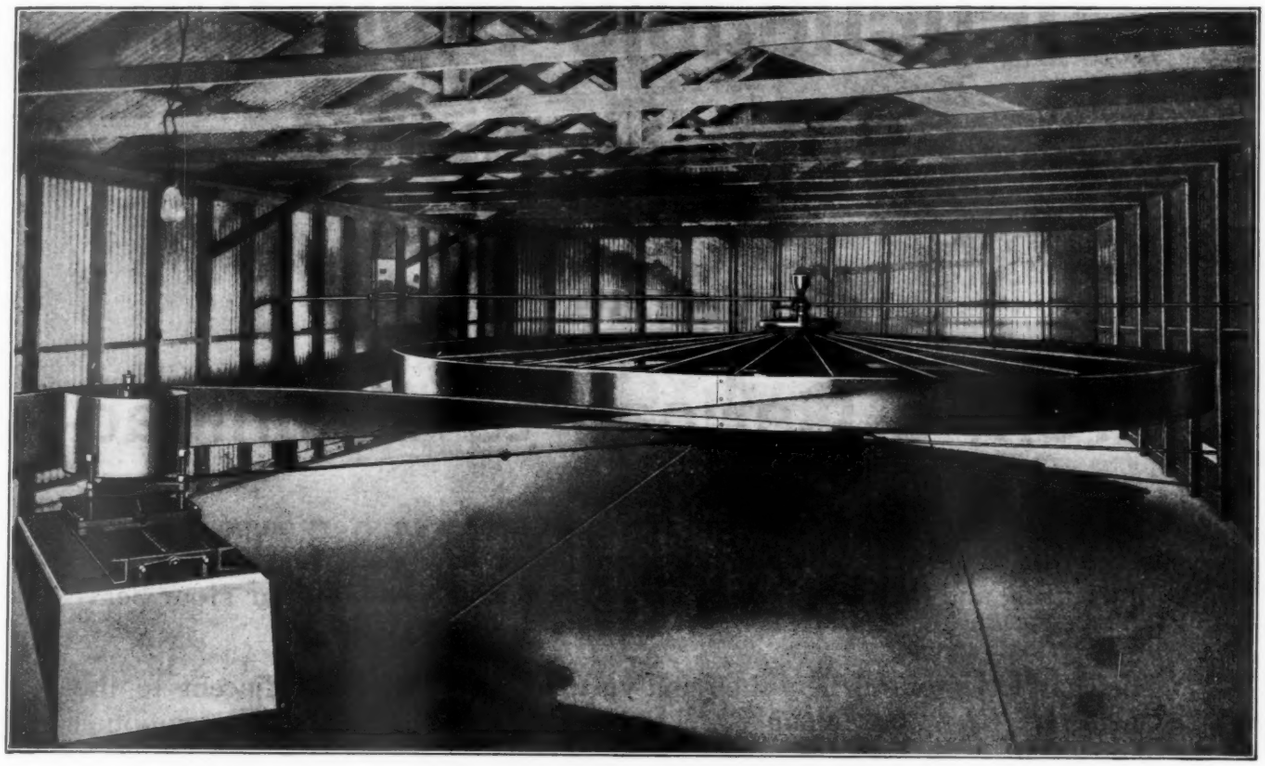

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WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 48)

FLOYD COUNTY

Explin. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur.—Spudded and S.D.
Explin. Co.'s No. 1 Land & Cattle Co.—S.D., 246 ft. for casing.

GRAY COUNTY

Atlantic O. P. Co.'s No. 1 Combs & Worley, NW cor. NE sec. 39, Blk. 3—T.D., 3,085 ft; shot 560 qts., 2,947-3,052 ft; sprayed 30 bbls. 24 hrs. and went dead; C.O.
Archer, Blake et al's No. 1 Turneau, Sec. 111, Blk. 2-B—Spudded and S.D.
Amos et al's No. 1 Crews, NW cor. Sec. 9, Blk. 25—4,000,000 ft. gas, 2,270-75 ft; show oil, 2,700 ft; drlg., 3,005 ft; 300 ft. oil in hole; to shoot.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B—Killed gas, fish. for bit, 2,668 ft.
British-Amer. O. Co.'s No. 1 J. E. Meers, Sec. 107, Blk. 3—58,000,000 ft. gas and slight spray oil; S.D., 3,190 ft; will possibly complete as gasser.
British American Oil Co.'s No. 1 J. M. Patton, Sec. 61, Blk. B-2—Rigged and S.D; temp. abd.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1—S.D., 3,860 ft.
Danciger et al's No. 1 Jackson, NW cor. Sec. 88, Blk. B-2—Rig.
Donley Gray Oil Co.'s No. 1 J. W. Gordon—20-in. pipe set at 600 ft.
Jack Doyle's No. 1 D. W. Osborne, SE cor. Sec. 109, Blk. 3—Rig.
Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur.—Drlg., 1,070 ft; 12-in. set, 950 ft.
Empire G. & F. Co.'s No. 1 J. E. Cubine, NE cor. NW Sec. 36, Blk. 25—6,000,000 ft. gas, 2,342-60 ft; top granite wash, 2,397 ft; set 8-in. pipe, 2,472 ft; drlg., 3,220 ft; granite.
Empire G. & F. Co.'s No. 1 J. A. Hood, SW cor. SE. Sec. 33, Blk. 3—1,700 ft. oil in hole from 2,964-3,010 ft.
Empire G. & F. Co.'s No. 1 J. M. Saunders, SW cor. SE Sec. 4, Blk. 3—500,000 ft. gas, 2,828-45 ft; drlg; sprayed 114 bbls. 16 hrs. from 3,098-3,108 ft; drlg. granite wash, 3,113 ft.
Empire G. & F. Co.'s No. 1 J. F. Meers, NE cor. SE Sec. 107, Blk. 3—T.D., 3,160 ft; steel line meas. show fresh water; swabbed 50% water; swabbed down oil and water gone; drlg., 3,168 ft; 1,000 ft. oil in hole; shot 150 qts. 3,109-68 ft. making 37 bbls. daily; T.D., 3,172 ft.
Empire G. & F. Co.'s No. 1 Webb, SW cor. Sec. 59, Blk. 25; elev. 2,534 ft.—Shot with 180 qts., 2,841-80 ft; show oil, shot with 150 qts., 2-452-55 ft; no results; to complete as gas well.
Lefors Pet. Co.'s No. 1 Leach, Lefors Townsite—Spudded and S.D.
Glad's Gray's No. 1 Colebank-Morse (was Foster et al's No. 1 G. Cutebank), SW cor. NE Sec. 65, Blk. 25—2,905 ft., T.D; plugged back to 2,803 ft; shot 160 qts., 2,470-2,510 ft; 1,200 ft. oil in hole; bailed dry; shot 600 qts., 2,479-2,525 ft; C.O; swabbing 25 bbls. daily.
Gulf Prod. Co.'s No. 1 Bowers, Sec. 89, Blk. B-2—Drlg., 2,479 ft.
Gray County Pet. Co.'s No. 1 Herndon, Sec. 147, Blk. 3—Hole full salt water, 3,420 ft; S.D., 3,535 ft.
Gray County Pet. Co.'s No. 1 A. Chapman—Run. 8-in. cas., 2,080 ft.
Neudigate et al's No. 1 A. Chapman, NE cor. E half SE Sec. 52, Blk. 25—Drlg., 2,600 ft.
Operators Oil Co.'s No. 1 Bowers, NE cor., Sec. 85, Blk. 3, I. & G. N. Sur.—Rig on ground.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3—S.D., 1,200 ft.
Pampa Pet. Co.'s No. 1 Mary Leopold, Sec. 141, Blk. 3—Water, 3,230-60 ft; slight oil show in granite wash, 3,572-75 ft; S.D., 3,700 ft.
Petroleum Explin. Co.'s No. 1 L. C. McConnell, SE cor. NW Sec. 174, Blk. 3—Topped lime, 2,405 ft; drlg., 2,630 ft.
Purple Sage Oil Co.'s No. 1 Johnson, Sec. 8, Rockwell County school land—First oil show, 2,645 ft; water, 2,660 ft; show oil in gran. wash, 2,790-95 ft; 8-in. cas. set., 2,803 ft; show gas, 2,814 ft; S.D., 3,208 ft.
Riley & Heck's No. 1 Mrs. Hopkins, Sec. 66, Blk. 2-B—Show oil, 3,020 ft; dropped 6-in. cas. in hole; S.D; will probably skid rig.
Rensoul Pet. Co.'s (was Salisbury & Reynolds') No. 1 M. Huselby, C SE NE NE Sec. 55, Blk. 25, H. & G. N. Sur.—Flow, 20 bbls. daily from granite wash topped, 2,407 ft; drlg. granite wash, 2,845 ft.
Roxana Pet. Corp.'s No. 1 Combs & Worley, NE cor. NW, Sec. 39, Blk. 3—Drlg., 2,745 ft; first gas, 2,743 ft.
Roxana Pet. Corp.'s No. 1 R. S. McConnell, NE cor. E half SW, Sec. 174, Blk. 3—Drlg., 2,720 ft.
C. B. Shafer's No. 1 G. Cole, SE cor. W half SW Sec. 105, Blk. 3—Fish. pipe, 3,313 ft; 2,000 ft. oil in hole; S.D. to plug.
Sullivan et al's No. 1 fee, NW cor. E half SW, Sec. 1, Blk. 1, A. C. H. & B. Sur.—Spud.
J. Williams et al's No. 1 C. W. Bradford, Sec. 123, Blk. B-2—Rig temp. abd.

HALE COUNTY

Exploration Co.'s No. 1 Crawford, Cen. NE, Sec. 17, Blk. C-3, T. T. R. R. Sur.—Rig.
Explin. Co.'s No. 1 fee, C SE half Sec. 19, Blk. S-4, D. & S. E. Sur.—Rig.
Explin. Co.'s No. 1 Goodman—Spudding.
A. S. Mimm's No. 1 W. A. Ritcher, 700 ft. from east line and 1,200 ft. from south line, Sec. 17, Blk. X, John Glynn Sur.—Drlg., 300 ft.
Engleking Drlg. Co.'s No. 1 Mulligan, C Sec. 21, Blk. B. R. M. Thompson Sur.—200 ft. fluid in hole from 407-14 ft; run. tubing.

HALL COUNTY

Seifert et al's No. 1 Owens, C NE Sec. 179, Blk. S-5, Dennison & Pacific Sur.—Spudded and S.D.

HANSFORD COUNTY

Oklavania et al's No. 1 Coots, Sec. 13, Blk. 45, H. & T. C. Sur.—Drlg., 350 ft.

HOCKLEY COUNTY

El Capitan Oil Co.'s No. 1 Ellwood, SW cor. Sec. 55, Blk. A, R. M. Thompson Sur., 18 mi. NW Lubbock—S.D., 2,350 ft.
World Oil Co.'s No. 1 Ellwood—Rig on ground.

HARTLEY COUNTY

Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 9, Blk. 2—Show gas and rainbow of oil, 2,560 ft; top lime, 2,810 ft; 24,000,000 ft. gas, 3,100-3,280 ft; drlg. 3,465 ft.
Eslick et al's No. 1 J. B. Irving, Sec. 13, Blk. 13—Topped granite wash, 3,108 ft; show oil 3,226 ft; fish 3,320 ft.
J. E. McKanna's No. 1 Frances Farwell, Sec. 30, Blk. 22—Run. 6-in. casing to 2,990 ft.
J. E. McKanna's No. 1 J. M. Shelton est., Sec. 29, Blk. 202—S.D., 3,595 ft; cas. trouble; rig blown down; rebuilding rig.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4—Spudded and S.D.
Hoover et al's No. 1 fee, J. S. Hood Sur.—Run. 5-in. cas. to 4,555 ft; drlg., 4,598 ft.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 1 Ida Ingerton—70,000,000 ft. gas, 2,400-2,610 ft; killing gas; S.R.
Anderson & Pritchard's No. 2 William Yake, SW cor. NW, Sec. 1, Blk. J, H. & G. N. Sur. half mile W of No. 1—S.D., 350 ft. to repair rig.
R. G. Barnum et al's No. 1 Garland Sanford, Sec. 78, Blk. 46—Rig.
Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23—S.D., 405 ft. for orders.
Berryman Oil Co.'s No. 1 Sanford, Sec. 83, Blk. 46, H. & T. C. Sur.—80,000,000 ft. gas, 2,690-2,905 ft; show oil, 2,915 ft; show oil 3,030-39 ft; S.D., 3,060 ft.
Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y—S.D., 750 ft.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. X03, H. & O. B. Sur.—S.D., 600 ft. for 12-in.
Great Plains Oil Co.'s No. 1 Bivins, Sec. 13, Blk. Y2, T. T. R. R. Sur.—60,000,000 ft gas, 2,540-60 ft; fish., 2,990 ft.
Great Plains Oil Co.'s No. 1 Kingsland, Sec. 4, Blk. Y—S.D., 2,345 ft.
Golden Eagle Oil Corp.'s No. 1 J. Q. Bost, Sec. 6, Blk. Y-2—Derrick.
McMan O. & G. Co.'s No. 1 Albert Yake—Drlg., 1,250 ft.
Marland Oil Co.'s No. 1 Carver, Wm. Heath Sur.—S.D., 3,810-30 ft; 710 ft. water, P. B. to complete as a gas well around 3,260 ft.
Panfield Oil Co.'s No. 1 Luginbyhl Bros., Sec. 50, Blk. M-23—S.D., 1,200 ft.
Pole Cat Oil Co.'s No. 1 W. B. Haile, Sec. 24, Blk. M-21—Drlg., 2,579 ft.
Phillips Pet. Co.'s No. 12 Elva-Whittenburg, E. Tomlinson Sur.—Drlg., 3,940 ft.
Prairie O. & G. Co.'s No. 1 J. M. Sanford, SW cor. N half Sec. 85, Blk. 46—Drlg., 2,765 ft.
Prairie O. & G. Co. and Vacuum Oil Co.'s No. 1 Cal Merchant—Drowning out 75,000,000 ft. gas. 2,252-2,740 ft; C. O., 2,550 ft.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson—Run. cas. by tools, 2,515 ft., running 8¼-in., 2,550 ft.
Sweeney et al's No. 1 Johnson, Sec. 38, Blk. Y—S.D., 1,780 ft.
U. S. Oil Corp.'s No. 1 Johnson, Sec. 35, Blk. Y—Rig pulled in at 2,561 ft; making 40,000,000 ft. of gas, 2,140-2,250 ft.
Vitek Oil Co.'s No. 1 W. F. Allen, Jose Rodriguez Sur.—S.D., 180 ft.

KING COUNTY

California Co.'s No. 1 Spikes Farm No. 2—Drlg., 1,010 ft.
Gibson & Johnson's No. 1 Burnett est.—Salt water, 2,525-50 ft; run. 8-in. to 2,576 ft; drlg., 2,930 ft.
Midwest's No. 1 Patton—Drlg., 2,750 ft.
J. L. Pattison's No. 1 Patton—S.D., 2,065 ft.
Phillips Petroleum's No. 1—S.D., 3,505 ft., to abandon.
Sinclair—Drlg., 3,146 ft.
White Eagle's No. 1—S.D., 2,755 ft.

LIPSCOMB COUNTY

Cal-Tex's No. 1 Bradford, C NE NE Sec. 899, Blk. 43, H. & T. C. Sur.—Spudded and S.D.
Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 45—S.D., 600 ft.
McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 504, Blk. 43, H. & T. C. Sur.—Water in lime at 4,126-40 ft; straightreaming 6-in. to 4,140 ft.
Ozark Drlg. Co.'s No. 1 Frass, NE SE Sec. 106, Blk. 10, H. & T. C. Sur.—Rig on ground.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43—Drlg., 3,550 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 2 Terry Thompson, Sec. 19, Blk. 44—Making 84,000,000 ft. gas; lime, 3,425 ft; gas killed; S.D.
Douglas Oil Co.'s No. 1 H. M. Beauchamp, Sec. 112, Blk. 44—12,000,000 ft. gas, 3,425 ft; 6-in. cas. set, 3,470 ft; water, 4,062-65 ft.
Marland Oil Co.'s No. 1 J. T. Sneed, Jr., Sec. 25, Blk. 1—Half bailer water per hr., 3,152-3,202 ft; plug. back for gas.
Moore County Oil Co.'s No. 1 Sneed, Sec. 30, Blk. 6-T—8,000,000 ft. gas,2,700-12 ft; drlg., to 2,771 ft, gas increased to 15,000,000 ft; 8-in. pipe set at 2,965 ft.
Shadler Bros.' No. 1 John Lowery, Sec. 237, Blk. 44—Show gas, 2,500 ft; drlg., 2,520 ft.
Skelly Oil Co.'s No. 1 Armstrong & Byrd—Drlg., 2,360 ft.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21—Drlg., 612 ft.

MOTLEY COUNTY

Chechako Oil Co.'s (J. W. Pennington et al of Amarillo) No. 1 J. W. Owens, NW cor. Sec. 26, Blk. 4, (15,000-acre solid block)—S.D., 3,640 ft.
Exploration Co.'s No. 1 Burleson—Spudded and S.D.
Exploration Co.'s No. 1 Tillson—S.D., 750 ft. for repairs.
Exploration Co.'s No. 1 Matador Land & Cattle Co. Cen. SW, Sec. 37, John Gibson Sur.—Location.
Wheeler et al's No. 1 C. D. Bird, C NE Sec. 4, Blk. S, Stephens Sur.—Spudded and S.D.

OCHILTREE COUNTY

W. G. Burton's No. 1 Stickler, Sec. 579, Blk. 43—S.D., hole full of water, 3,940 ft.
Hamilton et al's No. 1 R. E. Wamble, Sec. 144, Blk. 43—S.D., 250 ft.
McCorkle Pipe Line Co.'s No. 1 R. H. Moore, Sec. 471, Blk. 43—S.D., 1,600 ft.
McCorkle's No. 1 Weinett, Sec. 674, Blk. 43—Fish. for bit, 560 ft.
Standard Dev. Co.'s No. 1 Bowden, Sec. 923, Blk. 43—S.D., 900 ft.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landergin, SE cor. NE SW Sec. 46, League 310, Capital land—Drlg., 4,050 ft.

PARMER COUNTY

Humble O. & G. Co.'s No. 1 Farwell; elev. 4,005 ft.—Temp. abd., 3,600 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Masterson, Sec. 69, Blk. O-18, D. & P. Sur.—Drlg., 410 ft.
Amarillo Oil Co.s No. 1-B Masterson, Sec. 43, Blk. G-M-3, G. & M. Sur.—Location.
Del Rio Oil Co.'s No. 1 River Bed, Sec. 106, Blk. 46, H. & T. C. Sur.—Rig, dismantled location abandoned.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A—Show gas, 4,990 ft; show oil, 4,992 ft; cas. set at 4,992 ft; drlg., 5,005 ft.
Dunbar's No. 1 H. A. Gill, Sec. 127, Blk. M-2—Cellar; temporarily abd.
Murphy et al's No. 1 Gill, Sec. 31, Blk. M-2—S.D., 650 ft.
Charles Page et al's No. 1 Hamilton, Tract 2, Clay County school land—S.D., 440 ft.
C. C. Wilson, No. 1 A. H. Tandy, NE cor. Sec. 182, Blk. 42, H. & T. C. Sur.—Spudded and S.D.

SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B—Fish., 1,385 ft.
Hagy & Harrington's No. 1 S. F. Flores, C SW Sec. 64, Blk. 3-T, T. & N. O. Sur.—Set. 10-in., 1,100 ft; drlg., 1,235 ft.
Phillips Pet. Co.'s No. 1 Price & Fuqua, C NE, Sec. 33, Blk. 2-B, G. H. & H. Sur.—S.D., 950 ft.
Whitehead et al's No. 1 Lee Bivins, C SW Sec. 36, Blk. 2, G. H. & H. Sur.—Location.

SWISHER COUNTY

Explin. Co.'s No. 1 W. C. Denwiddie, Sec. 70, Blk. M-11, A. B. & M. Sur.; elev. 3,610 ft.—Rig on ground.
R. H. Miller's No. 1 Todd—Loc. temporarily abd.

WHEELER COUNTY

American Ref. Co.'s No. 1 E. E. Carlton, Sec. 29, Blk. 13—8,000,000 ft. gas; show oil, 2,027 ft; T.D., 2,255 ft; plugging back to 2,055 ft.
Angus et al's No. 1 G. A. Morgan, SW cor. SW NE, Sec. 93, Blk. 17—Making 24,000,000 ft. gas, 1,800-95 ft; S.D., 1,895 ft.
Angus et al's No. 1 Vermillion, SW cor. NW SW, Sec. 80, Blk. 17, H. & G. N. Sur.—Drlg., 1,622 ft.
Boyles & Johnson's No. 1 S. L. Lewis, Sec. 40, Blk. 24—S.D., 1,805, corrected depth.
Foster et al's No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur.—Spudded and S.D.
Lyons et al's No. 1 Jackson, Sec. 11, Blk. 27, H. & G. N. Sur.—Rig on ground.
Marland Oil Co.'s No. 2 W. E. Bentley—Show gas, 2,205 ft; S.D., by agreement.
J. J. Rook's No. 1 M. Mertel, SE NE Sec. 4, Blk. 24, H. & G. N. Sur.—Fish. casing, 1,300 ft.
J. J. Rook's No. 1 C. W. Porter, SW cor. NW Sec. 41, Blk. 24—S.D., 2,300 ft. by agreement.
Wheeler O. & G. Co.'s No. 1 P. J. Sorenson, Sec. 53, Blk A-4—Spudded and S.D.
Smith Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. 4-A—S.D., 2,112 ft. for orders, preparing to resume drilling.
E. L. Woodley, Jr.'s No. 1 Woodley, Sr., Sec. 13, Blk. 5-A—Show oil, 2,227 ft; S.D., 2,349 ft.
Watchorn O. & G. Co.'s No. 1 F. E. Shelton, C NE NE, Sec. 22, Blk. 24—Gas at 2,007 ft; 200,000,000 ft; mudded off; drlg., 2,134 ft.
The Texas Company's No. 1 Bell, Section 71, Blk. 13, H. & G. N. Sur.—Drlg., 1,575 ft.

FORBID DRILLING OUTSIDE OF POOLS

(Continued from Page 42)

ing companies at Seminole would prove obstacles to any genuine shut-down policy.

At the conclusion of the hearing, the commission issued the following order:

"By Chairman Capshaw: It is the order of this commission that this cause be continued for further hearing on August 5 in the commission's court room at 10 o'clock in the morning that pending further hearing in this case that no wells shall be shot in what is known as the Greater Seminole area, including Townships 7, 8, 9 and 10 North, Ranges 5 and 6 East, without the consent of the commission; that no well in said field be drilled into the sand and produced from outside of what is known as the Bowlegs Field in Township 8 North, 6 East; the Seminole City or Seminole proper, Field in 9, 6 East; the Searight Pool in 10, 6 East; the Earlsboro Pool in Township 9, Range 5 east; that no wells in said field outside the pools described be drilled into the sand and produced from without the written consent of the commission pending the continuance of this case to August 5. All parties will take notice that on August 5 a hearing of this case will be held. That Mr. Ray M. Collins is now appointed agent of this commission to see that the orders of the commission are carried out pending final hearing of this matter on August 5. The commission at this time notified all parties present of this hearing on August 5, and in the meantime notice in writing will be given to all of the parties."

Following the order of the commission, the Gypsy Oil Co. filed an answer in which it declared the order unconstitutional, and violative of property rights. According to the Gypsy Oil Co.'s answer, the commission acted without due authority and without due process of law. The Gypsy Oil Co. was one of the companies which voted against adoption of the Collins resolution at the Tulsa meetings.

Another hearing will be held by the Oklahoma Corporation Commission on August 5, at Oklahoma City.

PRORATION WOULD SOLVE PROBLEM

(Continued from Page 39)

Company, Farm:	Wells	Prod'n July 25	Prorated Prod'n
Mid-Continent:			
McCumber	3	9,485	5,691
Mid-Kansas:			
Anderson	1	3,875	2,325
Phillips:			
Graham	4	1,260	756
Dunaway	1	19	11
Philmack:			
Dobbs	2	.....	.....
Prairie:			
Baker	1	50	30
Davis	3	7,425	4,455
Graham	1	3,235	1,941
Stidham	4	9,385	5,631
Roxana:			
Spencer	2	7,340	4,404
Sinclair:			
Foreman	1	.....	.....
Skelly:			
Spencer	1	.....	.....
The Texas Company:			
Rodgers	1	10,835	6,501
Tidal:			
Watkins	2	11,850	7,110
Twin State:			
Baker	1	4,902	2,941
Hearn	1	3,507	2,104
Shallow production	25	3,700	2,220
Total Earlsboro	108	193,129	115,871
Seminole City			
Carter:			
B. Carter	2	245	147
J. Carter	3	65	39
F. Carter	3	310	186
Creamer	2	175	105
R. Cudjo	4	1,255	753
W. Cudjo	2	240	144
Gilliland	2	190	114
Gilliland, W.	7	1,165	699
Knapp	3	1,300	780
Killing, M.	10	11,475	6,885
Killing, G.	4	2,140	1,284
Lukes	6	1,270	762
Ponder	1	220	132
Simpson	2	300	180
Strother	3	3,010	1,806
Vierson	4	525	315
Amerada:			
Fixico	4	1,795	1,077
Killing	4	475	285
Rentie	3	1,183	709
Atlantic:			
Cudjo, N.	4	715	429
Barnsdall:			
Carter	9	3,883	2,329
Henry	2	635	381
Jones	4	1,030	618
Empire:			
Gross	2	1,850	1,110
Wilson	3	603	361
Gypsy:			
Butler	3	842	505
Carter	8	1,692	1,015
Cudjo	4	986	591
Fixico	5	220	132
Harjo	3	1,312	787
Wolf	7	855	513
Independent:			
P. Fixico	4	320	192
Harjo	2	980	588
Independent & Garland:			
T. Fixico	8	755	453
Independent & Interocean:			
Jones	4	628	376
Indian Territory:			
Bowlegs	10	3,739	2,243
Gooden	4	516	309
Harjo	4	699	419
James	4	1,027	616
Marcey	1	.....	.....
Reed	3	40	24
Kingwood:			
Johnson	5	1,739	1,043
Magnolia:			
Franks	4	1,548	928
Mid-Continent:			
Rentie	9	1,760	1,056
Tayeche	7	430	258
Mid-Kansas:			
Pressley	1	.....	.....
Johnson	1	717	430
Phillips:			
Strothers	3	177	106
Philmack:			
Butler	3	4,675	2,805
Prairie:			
Gross	5	140	840
Mason	1	1,175	705
Spencer	1	15	9
Strother	8	1,905	1,143
Pure:			
Strother, A.	17	2,656	1,593
Strother, B.	3	3,133	1,879
Strother, C.	1	126	75
Roxana:			
Harber	2	381	228
Lashley	2	53	31
Sinclair:			
Carter	2	35	21
Cudjo, A.	6	1,340	804
Cudjo, B.	3	535	321
Dicey	1	520	312
Fixico	4	665	399
Slick:			
Cudjo	3	1,348	748
Franks	8	1,328	796
Giblet	1	1,536	921
Superior:			
Cudjo	4	1,014	608
The Texas Company:			
Mayhue	1	290	174
Tidal:			
Carter	5	2,130	1,278
Fixico	8	735	441
Harjo, D.	1	1,350	810
Harjo, T.	6	225	135
Mahardy	3	1,000	600
Tayeche	2	780	468
Turman:			
Cudjo	4	663	397
Grisso	1	363	217
Jones	4	1,659	1,295
The Texas Company:			
Strothers	1	55	33
Total Seminole	307	88,866	54,300
Searight			
Carter:			
Davis	5	6,060	3,636
Frazier	5	6,265	3,759
Kiker	1	35	21
Scott	1	40	24
Gypsy:			
Cudjo	2	385	231
Mid-Continent:			
Grayson	6	3,790	2,274
Soloche	2	1,710	1,026
Prairie:			
Cannon	1	15	9
Carter	1	10	6
Houck	1	10	6
Kincaid	8	2,400	1,440
Wiemer	1	.....	.....
Pure:			
Aldridge	2	4,135	2,481
Roxana:			
Strother	1	1,434	860
Sinclair:			
Polly	2	2,125	1,275
Twin State:			
Cudjo	1	1,055	633
Wilcox:			
Chupco	2	2,165	1,299
Total Searight	42	31,634	18,980
Grand total	624	512,647	307,522
Shallow	26	3,710	.....
Hunton	58	8,500	.....
Wilcox	540	500,437	.....

SUSPENSION OF GAS LIFT WOULD REDUCE PRODUCTION MATERIALLY

In line with the suggestion made by Henry McGraw, vice president of the Gypsy Oil Co., that the operation of all gas lift equipment be suspended in the Seminole area for a time as a means of curtailing production, the following table was compiled showing what effect such action would have on production of the area. The table is based on production by companies as of July 11.

Statement of actual (A) production and estimated (E) production by natural flow and pumping in the greater Seminole area. Based on production July 11, 1927.:

Company—		Seminole	Earlsboro	Bowlegs	Searight	Total
Amerada	A	3,518	15,731	11,490	.....	30,739
	E	1,541	15,062	2,600	.....	19,203
Barnsdall	A	4,777	16,423	970	.....	22,170
	E	2,320	6,770	275	.....	9,365
Carter	A	26,947	5,070	23,170	12,350	67,487
	E	14,151	5,070	5,400	11,015	35,636
Empire	A	1,911	6,924	4,934	.....	13,769
	E	770	6,924	2,439	.....	10,133
Gypsy	A	6,065	9,639	4,610	758	21,072
	E	3,713	6,680	1,780	758	12,931
Mid-Continent	A	1,945	4,920	6,808	5,310	18,983
	E	1,500	3,140	1,400	1,625	7,695
Prairie	A	3,465	15,930	15,330	3,525	38,250
	E	1,850	15,930	3,200	1,760	22,740
Pure	A	6,410	.....	24,304	3,061	33,775
	E	2,987	.....	4,525	3,061	10,573
Sinclair	A	3,934	.....	17,715	2,710	24,359
	E	2,048	.....	3,415	2,710	8,173
Tidal	A	7,525	.....	1,380	.....	8,905
	E	1,010	.....	400	.....	1,410
I. T. I. O. Co.	A	5,834	.....	50,898	.....	56,732
	E	2,552	.....	12,659	.....	15,209
Independent and others	A	3,178	13,806	980	.....	17,964
	E	2,020	12,455	300	.....	16,775
Magnolia	A	1,346	17,651	.....	.....	18,997
	E	640	15,363	.....	.....	16,003
Atlantic	A	840	.....	10,006	.....	10,846
	E	250	.....	2,405	.....	2,655
Kingwood	A	1,957	.....	.....	.....	1,957
	E	800	.....	.....	.....	800
Mid-Kansas	A	726	.....	.....	.....	726
	E	330	.....	.....	.....	330
Philmack	A	4,560	20	.....	.....	4,580
	E	3,000	20	.....	.....	3,020
Phillips Pet. Co.	A	145	1,040	.....	.....	1,185
	E	145	690	.....	.....	835
Roxana	A	423	.....	4,102	2,414	6,939
	E	306	.....	963	2,414	3,683
T. B. Slick	A	3,934	.....	.....	.....	3,934
	E	2,048	.....	.....	.....	2,048
Superior	A	1,739	.....	.....	.....	1,739
	E	1,631	.....	.....	.....	1,631
The Texas Company	A	260	3,975	5,325	.....	9,560
	E	100	3,975	1,100	.....	5,175
Turman	A	841	.....	.....	.....	841
	E	300	.....	.....	.....	300
Grisso	A	2,338	.....	.....	.....	2,338
	E	650	.....	.....	.....	650
Continental	A	.....	4,069	.....	.....	4,069
	E	.....	400	.....	.....	400
Crosbie	A	.....	5,060	.....	.....	5,060
	E	.....	3,005	.....	.....	3,005
Inter-Ocean	A	.....	472	.....	.....	472
	E	.....	250	.....	.....	250
Twin State	A	.....	361	.....	1,155	1,516
	E	.....	361	.....	300	661
McCulloch	A	.....	.....	867	.....	867
	E	.....	.....	250	.....	250
Minnehoma	A	.....	.....	3,946	.....	3,946
	E	.....	.....	1,600	.....	1,600
Shaffer	A	.....	.....	5,034	.....	5,034
	E	.....	.....	1,000	.....	1,000
Wilcox	A	.....	.....	.....	2,389	2,389
	E	.....	.....	.....	800	800

SUMMARY

Pool—	Total Wells	Estimated Average Per Well	Total Actual Production	Total Estimated Production
Seminole	297	130	94,106	47,578
Bowlegs	140	289	188,022	45,711
Earlsboro	95	153	121,041	89,771
Searight	43	193	33,672	24,443
Total	575	163	436,841	206,930

DEATH OF PETER HEWITT

Peter Hewitt, aged 82 years, died at his home in Okmulgee, Okla., last week after a year of illness traceable to heart weakness. Mr. Hewitt was one of the oldest oil men in all the oil countries. Going to Oil Creek, Pa., in the early sixties from Hamilton, Ontario, he followed the business in its various lines, principally producing, in the East and the Mid-Continent continuously until his retirement a few years ago.

Common Products Uncommonly Good

In addition to our Stores at Shreveport, Haynesville, Norphlet and Smackover, The Mutual Supply Company, 503 Washington St., Houston, Texas, carries a stock of such PELCO Products as: Bailers—Bailer Tops and Bottoms—Bits, Fishtail—Clamps, Anchor and Casing—Casing Heads, La. Pattern Stuffing Box—Collars, Forged Steel Drill—Cutters, Inside Casing—Devices, Liner Setting "J" Tool Type—Rotary Fishing Tools—Hooks, Safety Sucker Rod and Tubing—Joints, Rotary Tool—Nipples, Belled—Nipples, Extra and Double Extra Strong, for drilling—Packers, Canvas and Burlap collapsible—Packers, Rope—Seals, "J" Tool Lead—Shoes, Forged Steel Drive and Set—Shoes, Tool Steel Rotary—Strainer, Water Well—Tongs, Break-Out, Etc., Etc.

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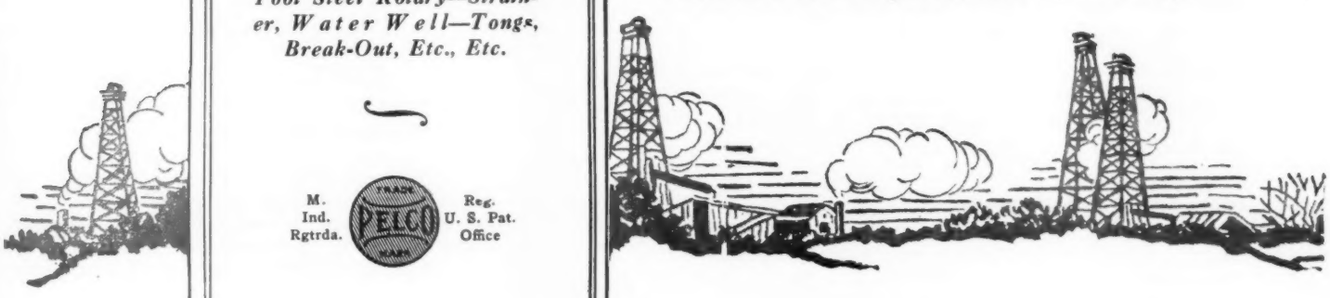
Yet we can't sell at competitive prices and make a legitimate profit. Because of the relations we enjoy with our customers it would be a contemptible thing to undertake.

We have never yet bought raw materials for any given item of equipment and planned its manufacture with the thought in mind that competitors are selling a similar product at such and such a price, and that our price must be held within it.

We probably get more per pound for fishtail bits than any other manufacturer in America. But less stock is required to make them sturdy, and the steel is so hard and tough that the selling price is of little importance. Our customers wouldn't have anything else at any price, or even scot free.

We are not obliged to hurry or skimp anything we do, and so PELCO Products are dependable in a sense and to a degree highly satisfactory to our customers. Some day you may get started using them, and if you ever do there will be no weaning you away.



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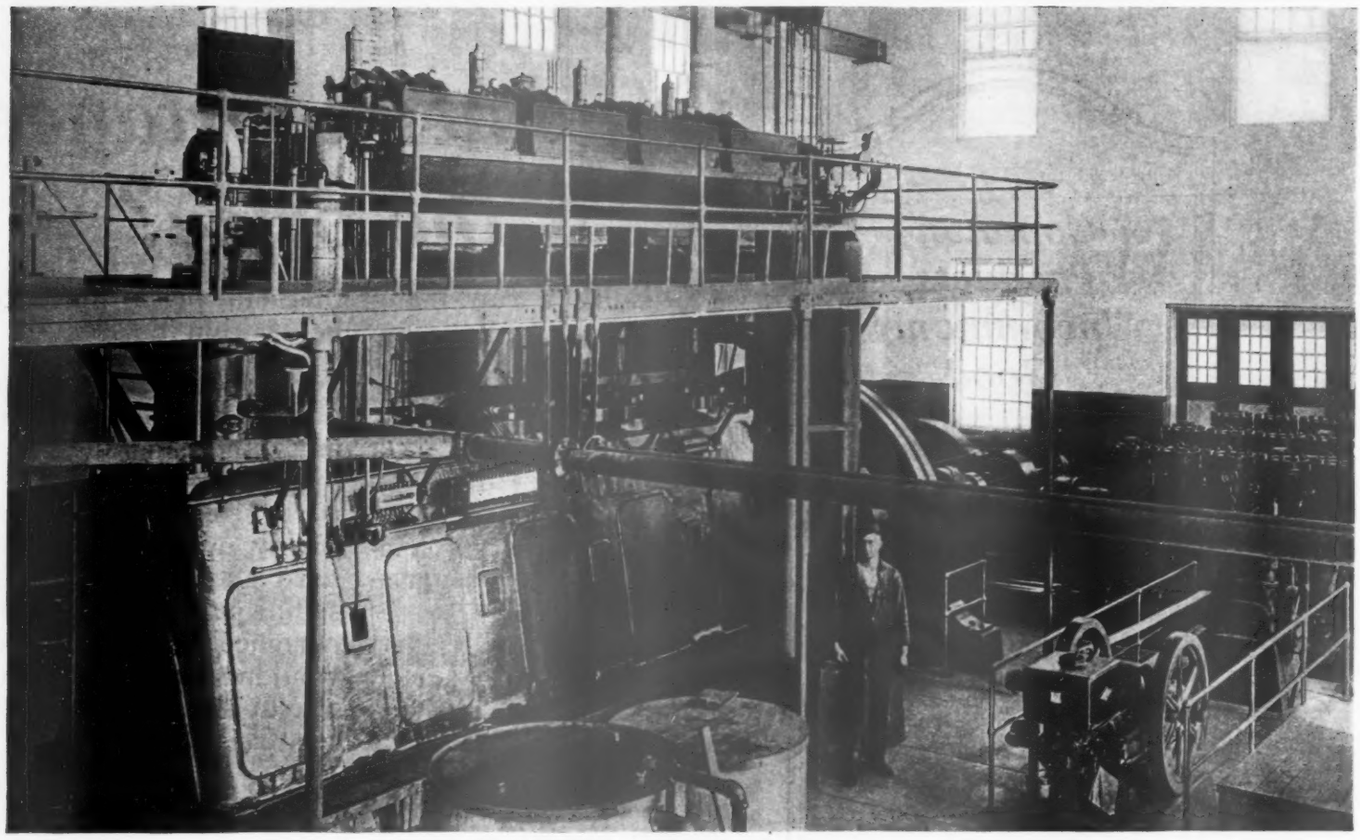
Store at Smackover, Arkansas Telephone 29



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Weigh these facts well when buying power units

"TODAY we seem to give first cost too much consideration, when as a matter of fact this is not real economy. The main thing to me is to avoid snap judgment, and follow out proven practice with the idea of bettering it in a conservative way.

"The average man who buys a Diesel engine for the first time does not yet know the difference. One has to own and operate several different makes to fully appreciate the thoroughness of design, workmanship and service of McIntosh & Seymour Diesels. There are none better of their type and the owner of these engines will never be found to be in trouble. Cutting down the cost and cheapening the product might enable the McIntosh & Seymour Corporation to make more sales at first, but in the long run that policy would only end in grief."

This comment comes from a man (name on request) of lifelong steam and Diesel power experience—a man whose logic and shrewdness in buying the best and building well have brought to him the undisputed American efficiency and economy records in his line of work.

Under his persistently progressive supervision, the best steam and Diesel power units on the market were pitted against each other in virtually identical service, about 3500 b.hp. of McIntosh & Seymour Engines having been selected for making the comparison. Two years of this competitive service not only established a clean-cut complete Diesel Victory, but the McIntosh & Seymour Engines also achieved records not before approached by any Diesel units and very far in advance of the performance of any other equipment based upon heat-consuming power.

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McINTOSH & SEYMOUR DIESEL ENGINES

LOW REFINED PRICES FIRST HALF OF YEAR

(Continued from Page 145)

As is shown in the accompanying table naphtha prices followed the same trend as gasolines.

Natural Gasolines

Manufacturers of natural gasoline the first half of the year were compelled to take prices for their plant output which were relatively lower than refinery gasolines. In Oklahoma, which is representative of the Mid-Continent and the entire eastern market, the average price received for Grade A was 6.09 cents with an average of 5 cents for Grade C which is the lowest priced grade. These averages compare with an average of 9.45 cents for Grade A in 1926, and 12.02 cents in 1925. For Grade C the average was 8.6 cents in 1926, and 11.2 cents in 1925.

The decline in natural gasolines east of California was steady from the first of the year until late in April. During May the price trend was upward but a reaction set in during June so that the six-month period ended with prices at the low point of the year. Present prices unquestionably are below the cost of production for the industry as a whole and an improvement is expected over the latter half of the year.

In California, there was a substantial decline in prices over last year, although the average for the first six months was about 2.75 cents higher than the average for 56-58 437 endpoint gasoline. Production of natural gasoline on the West Coast is largely in the hands of large companies which absorb the output of their plants through their own refineries. The average on the 75-85, 370-390 endpoint grade was 10.23 cents the first half of the year, a decline from the 14.65-cent average last year.

Kerosenes and Distillates

The year 1926 was an exceptionally favorable period for kerosenes and distillates. The highest average prices in several years were maintained. The decline the first half of this year was general, although not as marked as in the case of gasoline and some of the other products. Average prices at this time are still relatively high in relation to the crude schedules and prices for other products.

In the Mid-Continent, the 41-43 grade started out the year in Oklahoma at a price of 6 cents followed by a steady decline so that 4 cents was the prevailing quotation the latter part of June. The average for the six months was 4.96 cents. The average, the first half of last year was 7.25 cents with an average of 7.27 cents for the entire year. In Pennsylvania, the average price the first half of 1927 for 43 kerosene was 6.92 cents as against 8.85 cents for 1926.

In California, the average for the 38-40 water white kerosene the first six months was 6.34 cents, a decrease of a little over 1 cent from the 7.45-cent average last year. In the export market standard white kerosene in cases at New York brought an average price of 17.34 cents, a decline from the 18.9-cent average for 1926. At Los Angeles, the average for a water white kerosene the first half of the year was 4.88 cents as against 5.35 cents last year.

On the whole, the decline in distillate prices this year has been greater than in the case of kerosenes. In Oklahoma, the 38-40 distillate of the best grade brought an average of 3.91 cents up to July 1, a decline from the 4.73-cent average of last year. The engine distillates in California dropped from 30 to 50 per cent under the average for last year.

Fuel Oils and Gas Oils

Without exception average fuel oil and gas oil prices to date have been lower than last year. Shortly after the first of the year it became apparent that refiners would not be able to maintain the upward trend in effect since 1922. Buyers and sellers agree, however, that considering the low crude schedules, fuel oil and gas oil prices have held up remarkably well. The approach of the fall and winter buying season in the face of a bituminous coal strike leads to the

Weighted Average Prices—Refined Products

The following table gives the weighted average prices on the principal refined products for the past four and one-half years:

East of Rocky Mountains

	Refinery Gasoline	*Natural Gasoline	Distillates Gas Oil and Kerosene	Gas Oil and Fuel Oil	Lubricants	Wax
1927 (1st 6 mo.)	.0943	.0549	.0523	1.5733	.1341	.0400
1926	.12	.907	.0691	1.7325	.1534	.0528
1925	.1272	.117	.0474	1.533	.1690	.0564
1924	.1112	.081	.0476	1.4217	.1586	.0486
1923	.125	.0865	.0434	1.2679	.1548	.0289

*Mid-Continent only.

**California*

1927 (1st 6 mo.)	.0863	.1023	.0665	†.8961	.1007	
1926	.1134	.1455	.0832	.9813	.1223	No
1925	.1017	.1281	.0762	1.4068	.1448	wax
Last Half 1924	.1026	.1036	.0758	1.40	.14	refined

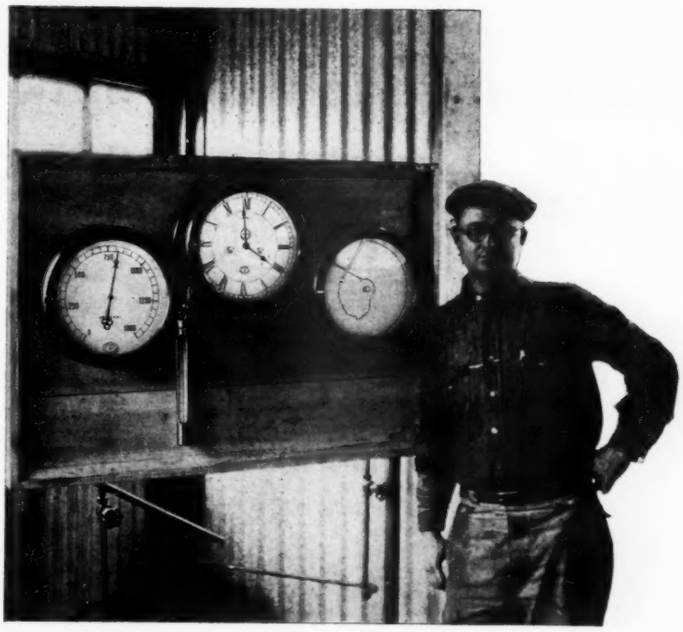
*Prices given are not weighted but are for one grade only except distillate and kerosene (two grades) and lubricants (two grades). Lubricant price does not include bright stocks which are not manufactured in California.

†Fuel oil only. Price at tide water.

Average Daily Price of Representative Grades of Crude Oil for Four and One-Half Years.

	Mid-Cont.	Penn.	Calif.
1927 (1st 6 mo.)	$1.49	$3.10	$1.12
1926	2.13	3.51	1.37
1925	1.87	3.50	1.35
1924	1.63	3.60	1.06
1923	1.56	3.33	.74

Mid-Continent price based on crude of 36 A. P. I. gravity as posted by the Prairie Oil & Gas Co. The Pennsylvania oil is based on quotations of the Joseph Seep Purchasing Agency for crude in New York Transit Lines. The California price covers Long Beach of 25 degrees gravity.



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conclusion that the last half of the year will be better than the first half.

There was a steady decline in the interior market the first four months of the year with prices fairly steady since the middle of May. Coastal refiners were able to maintain steady prices until June despite the increased production. The heavy production in California part of which is being sold on the Atlantic Seaboard has brought a condition so that at the end of the half-year, the coastal market appeared weaker than that of the interior.

Low priced crude and gasoline has tended to increase the fue oil production. Refiners are not endeavoring to secure the maximum yield of light end products and are dumping large quantities of fuel oil on the market.

In Oklahoma, the 24-26 grade of fuel oil brought an average of $1.0182 per barrel the first half of the year as against $1.3072 in 1926. In North Texas, the averages for the same grade were $1.1952 and $1.3904. In New York, the average for bunker oil was $1.7308, which is practically the same as the $1.74 average for last year. A price of $1.75 was maintained on the bunker oil at New York for over a year. In June this was reduced to $1.65 and additional reductions are expected.

In Diesel oils an average of $2.3462 was maintained at New York. Last year the average for the same grade was $2.4056.

The decline in gas oils was slightly greater than in the case of fuel oils. Aside from its industrial uses, gas oil during the past three years has been in strong demand as charging stock for cracking units at refineries. The low priced gasoline, however, brought a slump in this demand and it was quickly reflected in the Mid-Continent area where prices have been approximately 50 per cent lower than last year.

No further reductions are expected at interior points unless additional reductions in crude oil schedules materialize. Along the Atlantic Seaboard, however, the market is weak.

Lubricants

The trend in lubricants including steam refined cylinder stocks, bright stocks, neutrals and the compounded oils has been downward so far this year. However, these reductions have not been as great as might have been expected from the low crude oil prices. The manufacture of lubricants is in the hands of relatively few refiners who are more inclined to limit their output in line with the demand than are refiners whose plant operations are confined to skimming and cracking.

In the Mid-Continent average prices as shown in the table are lower than last year on neutrals and steam refined cylinder stocks. Practically no changes were made in bright stocks.

In Pennsylvania, 600 Pennsylvania brought an average weekly price of 18.73 cents the first half of this year. The average for the same grade last year was 24.19 cents. Pennsylvania bright stock brought an average price of 35.02 cents the first half of this year and 39.54 cents last year. On the Gulf Coast, neutral oils declined the first half of this year and the same situation applied in California.

Wax

The decline in wax prices which started late in 1925 continued through the first half of this year. Present prices are near the low of the past 10 years. An excess of supply over demand built up large stocks which will have to be absorbed before any material improvement can be expected in the wax market.

MANY DEATHS IN FIRST HALF OF THE YEAR

(Continued from Page 136)

vices, now so popular in the British oil fields.

April

Gordon W. Johnson, age 49, prominent figure in the Denver offices of the Continental Oil Co., died April 1 in the Colorado General Hospital in Denver. He entered the service of the Standard Oil Co. of New Jersey when 15 years of age and was later transferred to the Atlantic Refining Co.

J. H. McNabb, age 40, for four years in charge of the Ohio Oil Co.'s warehouse at Casper, died April 1 at the Casper Hospital after an operation for appendicitis.

Joseph Woodworth, age 82, died April 1 at Orilla, Ontario. Mr. Woodworth was an expert tanker, being employed by the Stokes and Carmichael interests.

James Bennett Porter, age 54, special representative of the Oklahoma Natural Gas Corp., suffered a stroke April 2 and died a few hours later at his home in Tulsa. He had been connected with the oil and gas industry in Tulsa since 1915.

Joseph Parks, age 46, one of the oldest employees of the Sun Oil Co., died April 2 at San Antonio, Tex. He started with that company in 1903 as a field worker in Spindletop and advanced until he became manager for the Sun in Arkansas in 1920.

Eli Admire, age 55, editor of the Oilton (Okla.) Gusher and well known to oil men who operated in the Cushing-Shamrock oil field, committed suicide April 13.

Mark E. Davis, age 55, member of the firm of Heggem & Davis, oil producers, died April 12 at his home in Tulsa after an illness of three weeks.

John S. Griffin, one of the largest independent oil producers in the industry and a resident of Tulsa, died April 11 in a St. Louis hospital of Bright's disease. In his youth he worked in the oldest Pennsylvania fields. Mr. Griffin was one of the original stockholders of the Pure Oil Co., and also of the Skelly Oil Co. He served for a time on the board of directors of the Skelly Oil Co., and was also a stockholder in the National Refining Co. and the Union Oil Co. of California.

Capt. Alonzo J. Thompson, age 87, pioneer oil producer, died April 15 at his home in Titusville, Pa.

Smith L. Titus, father of C. W. Titus, Tulsa, Okla., oil operator, died in St. Joseph's Hospital April 14 after an attack of influenza.

Noah C. Adams, age 36, died April 18 at his home in Tulsa. Mr. Adams was a geologist and had been active in the development of many prominent sections of the Mid-Continent Field.

Allie Smith, age 44, was killed April 20 in an automobile accident near Greenville, Tex. He was associated with his brother Claude Smith as a contractor and was well known in all the Texas and Louisiana fields.

May

Viscount Cowdray (Weetman Dickinson Pearson), age 71, oil and industrial magnate of Great Britain, died at his Scottish residence, Dunecht House, May 1. Viscount Cowdray and Edward L. Doheny were pioneers in opening up the Mexican fields. He began his business life as a member of the firm of S. Pearson & Son, contractors, and ultimately became the head of the organization whose undertakings he greatly extended, especially in Mexico and South America.

William McGinn, secretary of the New Mexico Oil Men's Association, was instantly killed May 5 when an automobile in which he was riding turned over. Mr. McGinn was an experienced newspaper man and a World War veteran.

T. S. Sligh, Jr., was killed May 12 by the accidental discharge of a pistol at South Bend, Ind., where he had recently joined the Studebaker engineering staff. He was formerly with the United States Bureau of Mines.

Col. A. E. Humphreys, nationally known producer and wildcatter was killed May 8 by the accidental discharge of one of his own guns as he was preparing for a hunting trip. The accident occurred at his home in Denver, Colo. Colonel Humphreys was one of the most interesting figures in the oil business. He operated successfully in Muskogee County and later in the Billings Field in Noble County, Oklahoma. About 10 years ago he came into great prominence when the organization which he headed opened the Mexia Field in Texas.

Phineas L. Golden, age 82, died at his home in Bradford, Pa., May 8. He was among the earliest operators in the Duke

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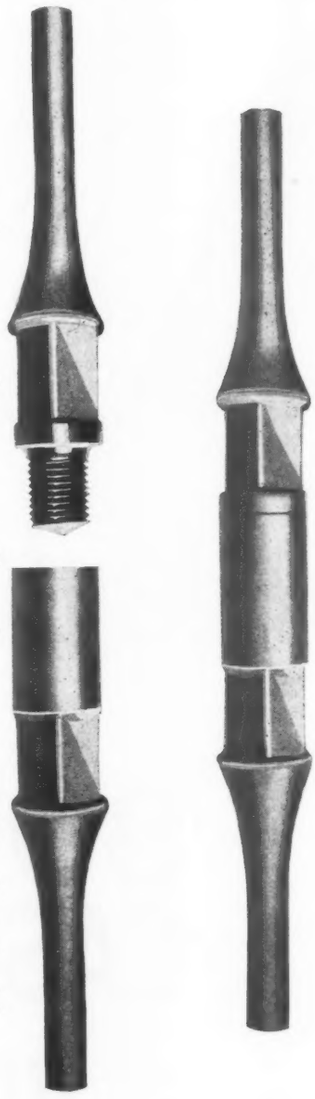

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Mrs. Roger J. McMurray, wife of the superintendent for the Roxana Petroleum Corp. at Stroud, Okla., died May 16 after a few days' illness.

Ivan L. Tilden, for the past four years head of the land and leasing department of the Magnolia Petroleum Co. in the Southwest Texas Field, died May 9 at San Antonio, Tex. He had been in the service of the Magnolia company for 10 years.

Joseph E. Herr, age 70 died May 22 in a Pittsburgh hospital. He came to Oil City when a young man and entered the employ of the National Transit Co., United Line Division. Later he moved to Findlay, Ohio, where he was employed for 17 years with the Illinois Pipe Line Co.

George Williams, long connected with the Cities Service Co., died May 27 at the Maine General Hospital at Portland, Me. He was a director in many public utility and industrial corporations.

Daniel E. Collins, age 67, retired oil man, died May 30 at his home in Okmulgee, Okla. After graduating from school Mr. Collins entered the service of the National Transit Co. at Allegany, N. Y. He came to Oklahoma when The Texas Company extended its pipe line system from Texas north and became a district superintendent for that company.

George Kaber, age 75, veteran oil producer in the Bradford Field of Pennsylvania, died May 23 at his winter home in Tarpon Springs, Fla.

June

W. L. Jeffords, veteran oil producer in shallow sand territory, died June 6 at his home in Chelsea, Okla.

Robert D. Laughlin, died June 1 at his home in Olean, N. Y., following an illness of several weeks. He built the first refinery in Olean, being a member of Wing, Wilbur & Co.

Samuel P. Fleming, age 74, died June 1 in Tulsa after a brief illness. He early entered the employ of the Paragon Refining Co. and was employed in the Eastern fields until 1911, when he came to Oklahoma as a representative of the Paragon company.

A. W. Smiley, age 83, died at his home in Foxburg, Pa., June 4. Mr. Smiley was the oldest pipe line man in point of time from his first employment. On July 1, 1865, he secured employment as timekeeper and paymaster for the force building the Pithole and Miller farm pipe line, the first ever placed in use. After its completion, he was made assistant superintendent and general agent, having charge of the buying department.

Col. J. W. Zevely, attorney for Sinclair Consolidated Oil Corp. since 1917, died June 10 at his home in East Hampton, L. I. He served in the Department of the Interior under Governor Francis, then secretary during the second Cleveland administration.

Arthur M. Donnelly, aged 64, president of the Eastland Oil Co. and the A. M. Donnelly Drilling Co., died June 22 at his home in Fort Worth. He was associated with the firm of Roth & Maire Brothers in the laying of the first gas line in East Buffalo, N. Y. Mr. Donnelly helped organize and was president of the Phoenix Fuel, Light & Water Co. of Phoenix, N. Y. After disposing of his business there he came to the Mid-Continent Field in the early development of Oklahoma. In 1919 he went to Fort Worth, Tex., where he engaged in operations in Eastland County.

R. L. Steiner of Wichita Falls, Tex., president of the Steiner Oil Co., and a well-known operator in the Texas fields, died suddenly June 20 at the Mayo Hotel in Tulsa.

David G. Bradner, age 81, veteran oil operator in the Pennsylvania fields, died June 10 at the home of his daughter in Warren, Ohio.

John Teele Pratt, internationally known financier and brother of Herbert L. Pratt, president of the Standard Oil Co. of New York, died suddenly June 24 in his private office in New York. Death was attributed to an attack of acute indigestion.

L. E. Yundt, vice president of the Wadhams Oil Co. of Milwaukee, died suddenly June 19 of heart disease. He had been connected with the Wadhams company continuously since 1899.

Thomas King, age 84, fell dead June 22 on a street in Muskogee. Mr. King was one of the earliest oil field workers in the United States. With the opening of the oil fields in Oklahoma he left his work in the Eastern fields and moved to Muskogee. Until 1904 he was superintendent of production for the A. B. Smith Co. In 1907 he worked for a year in Petrolia, Tex., and a year later retired.

Henry Clay Pierce, age 78, prominent in the oil industry, died June 27 in New York. He began work as a messenger in a bank in St. Louis. At 19 he established his own business and a short time later launched the firm of H. C. Pierce & Co. in the oil business.

TURNER VALLEY WELL GIVES NEW ASPECT

(Continued from Page 134)

gasoline. Making, in all, a daily production for the field, crude naphtha and light crude oil, of around 1,057 bbls.

This production is secured under varying conditions and from different horizons. The light crude, around 55 Baume, comes, generally, from the Dakota sand. The crude naphtha comes from the Madison limestone. But the wet gas from which the three earlier Royalite wells produce their gasoline is from horizons above the Madison while the Home Oil Co.'s No. 1 produces both light crude and crude naphtha from a quartzite sand which seems to immediately overlie the Madison.

Long-Lived Production

An important feature of the deep production is that the Royalite Oil Co.'s No. 4, which has been producing since the fall of 1924, far from showing signs of diminution, seems to be slightly increasing its production. Another feature is that each new completion adds to the production of gas for which, apart from its crude naphtha content, there is no immediate market. There is a possibility that this gas may be extensively utilized for power production, or, in the alternative, for the manufacture of carbon black.

In addition to the five deep crude naphtha producers, of which the most recent, the Home Oil Co. No. 1, seems not to have actually penetrated the Madison limestone, the New McDougall-Segur No. 1 got its commercial production of light crude from the Dakota sand at 2,595 feet, and indicated the possibility of a shallower commercial production from that horizon in certain parts of the field.

Most of the production comes from the center of the field. The Home Oil Co., however, is one of the southernmost tests in the Turner Valley, while on the other hand the Stockmen Oils test in the north end has encountered gas at several horizons and appears likely to secure production at depths under somewhat different conditions from those prevailing elsewhere.

Few New Locations

In spite of these encouraging developments, drilling activity in the Turner Valley this spring was less marked than had been anticipated. There have been comparatively few new locations made; nor have many of the somewhat speculative locations made last season been followed up this year by actual drilling. Most of the new locations this near, however, represent assured drilling. Thus Royalite Oil Co. is drilling No. 7 and has just located Nos. 8 and 9; Illinois-Alberta Oil & Refining Co. has located No. 2; McLeod Oil Co. is fairly well advanced with its No. 3 test, and Vulcan Oils, Ltd., is drilling No. 2 while allied interests have carried Spooner Oils No. 1 close to the deep lime and have located Spooner No. 2. New McDougall-Segur Oil Co., which got the shallow production in the Dakotas, is drilling No. 2 well to further test the same horizon.

A recent summary of the field shows the following:

Producing wells	12
Drilling	21
Shut down	7
Abandoned	6
Locations	64

Most of these locations were made last season. Many companies organized at

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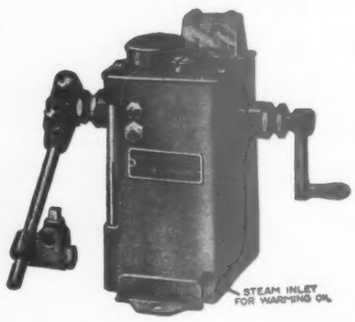

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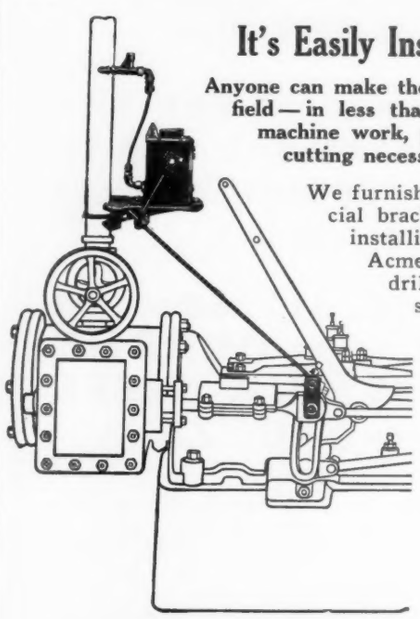

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that time on the strength of the Royalite No. 4 performance have experienced difficulty in financing their tests. The market in Calgary oil stocks has suffered a reaction following the boom in the spring of 1926, despite the considerable advance made in the interval toward proving the field.

Will Prospect Foothills

A perhaps significant feature is the announced decision, earlier in the year, of Imperial Oil, Ltd., to discontinue work on the prairies and concentrate its efforts on the foothills, and particularly on the Turner Valley. As a result the Royalite Oil Co., in addition to two unfinished tests, has located two wells offsetting producers; the Dalhousie Oil Co., another Imperial Oil, Ltd., subsidiary, has three wells drilling, and the Foothills Oil & Gas Co., a third Imperial subsidiary, has one test under way and is planning a second. This represents a total of nine tests being drilled by the Imperial interests in the Turner Valley Field.

At the time of writing, several tests are drilling close to the top of the Madison limestone. These include British Dominion No. 1 at approximately 6,000 feet, the deepest well in Canada; Calmont Oils, at 3,775 feet; Dalhousie Oil Co.'s No. 1 at 3,580 feet, and No. 6 at 3,720 feet; Royalite No. 7 at 3,410 feet; Spooner Oils No. 1 at 4,045 feet and Stockman Oils No. 1 at 4,710 feet. Barring drilling accidents, all these wells should reach the producing horizon in the Madison limestone this season, while several of the more recent tests may also get results. There are also the possibilities of some of the newer tests getting incidental production of light crude in the Dakota sands.

Unexpected Development

Commercial production in the Devenish Petroleums' No. 1, south of Skiff, was the unexpected development of the first half of 1927. This development will inevitably encourage further drilling in the border fields. The actual results at Devenish Petroleums' No. 1 are, at the moment of writing, undetermined. The well made 250 bbls. a day on a bailing test; the production is a rather heavy crude, around 25 Baume. It is claimed that the oil comes from the Ellis sand at 3,080 feet, and this producer is supposed in many quarters to have found the long-sought northern extension to the Kevin-Sunburst Field. If so, the producing horizons at this point, 30 miles north of the Montana boundary, are far more deeply buried than in the Kevin area.

The Devenish Petroleums' No. 1 was brought in after four other deep tests in the same general area had proven unsuccessful. Devenish Petroleums' No. 1 is in Section 27-5-14w4. A little earlier the Imperial-Burdett No. 1 in Section 8-11-11w4 was abandoned at 3,950 feet, and Imperial-Erickson Coulee No. 1, in Section 8-1-12w4, was abandoned at approximately the same depth. Both these tests got potential oil sands but failed to develop commercial production. In the Medicine Hat area, Roth Syndicate No. 2 test, Section 8-13-6w4, was abandoned at 3,150 feet, while near Coutts, Urban Oils, Section 4-1-15w4, was abandoned at 3,420 feet. The Urban also got a noncommercial oil sand. These deep tests were scattered over a wide area, but all sought at various points the possible oil deposits on the outer foldings underlying the prairie areas.

Apart from what may develop as a result of the Devenish Petroleums strike, there is considerable scattered drilling in the border fields of southern Alberta. In Acadia Valley, Fuego Oils, Section 34-25-4w4, is down 2,860 feet. Near Altario, Rosebud Syndicate in Section 15-33-2w4, is at 450 feet. Oil Producers Corp. of Canada has a derrick up in Section 24-22-23w4, near Gleichen. Ontario-Alberta Development Co. has a location in Township 17-8w4, near Suffield. At Warner, Gas Production & Transportation, Ltd., has a location in Section 21-4-18w4, and in the Foremost Field, Canadian Western Natural Gas Co., in Section 5-6-10w4 is drilling at 945 feet. In the Milk River area, the Alberta Flathead Oil Co. has a location in Section 31-2-15w4. Commonwealth Oil Co. of Calgary is doing considerable core drilling in the Milk River area. There has been extensive leasing in these border areas in the past 12 months, and various interests are reported to be carrying on geological work with a view to ultimate development.

5,745-Foot Dry Hole

Outside the Turner Valley Field, there has been a little activity in the southern foothills of western Alberta. In the foothills west of Nanton, Imperial-Rice Creek No. 1, Section 4-14-2w5, after being carried to a record depth, was abandoned at 5,747 feet. In the northern portion of the same foothill area, the Imperial-Highwood No. 1, Section 36-18-3w5, is still drilling at 2,377 feet. Further north, in the Jumping Pound district west of Calgary, Imperial-Bow River No. 1, Section 12-25-5w5, is at 5,585 feet and fishing. These three tests represent the Imperial Oil, Ltd., activities this spring in the foothills outside the Turner Valley.

Some work is being carried on by other companies in the foothills. In the Pincher Creek district, near the international boundary, Mount Royal Oil & Gas Co. No. 1 has spudded in, and the company has a second location. Near De Winton, the Anglesey-Lakeview No. 1 has a derrick up in Section 22-21-1w5. This test is being drilled by English interests headed by the Marquis of Anglesey. Ranchmen's Gas & Oil Co., in Section 13-20-29w, near Aldersyde, is drilling at 900 feet on what may be regarded as an outlying foothills structure. In the Moose Mountain and Morley Reserve areas, not far from the Turner Valley Field, there are three tests shut down, three drilling and two locations, but no definite results have been secured as yet. Locations have been made in the Ghost River, Springbank, Sinclair and Monarch areas of the foothills, but so far have not been followed by active drilling.

East central Alberta has, outside the Viking Field, been rather disappointing. In the Viking Field, Northwestern Utilities, Ltd., has finished one good gasser and is starting another. Further east, the Irma-Wainwright Field has shown less activity than was anticipated.

Irma-Wainwright Development

So far, the Irma-Wainwright Field has a record of 10 completed wells. Two of these failed to secure commercial production at any stage. Of the others, three were gassers and five produced heavy crude, around 12 to 22 Baume, in what was claimed to be commercial quantities. Some of these producers appear to have developed water troubles. The field in 1926 produced over 4,000 bbls. of heavy crude.

So far this year, no additional commercial production has been secured, nor has drilling been very active. Four tests have been drilling this spring and should be completed before the season closes. The National Explorations test in Section 30-45-6w4 appears to have got the top of the sand but at the time of writing is not yet ranked as a producer.

Still further east, the Ribstone-Blackfoot structure, which came into prominence last year as a result of the favorable geological report of Dr. G. S. Hume, has four tests more or less active. Of these the Imperial-Ribstone No. 1, Section 5-45-1w4, is the furthest advanced. This test got a sand which failed to develop commercial production, and at last reports was at 3,489 feet with negative results. A fifth test is being started on the Saskatchewan end of the structure, in addition to which there are some 10 locations not yet followed up by actual drilling.

Alberta represents at present the great potential oil area of the Canadian West. In British Columbia there are four tests more or less active, two in the Fraser Valley and two in the Sage Creek district in the southeastern part of the province. Some additional drilling is being undertaken in the latter area.

In Saskatchewan, drilling operations are under way in several areas, with, all told, four or five active tests. Of these the only one to get commercial results was the Unity Valley Oil Co. No. 1 near Vera which last leason got a large gas flow and a small show of oil. No

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MEASUREMENT AND CONTROL

additional commercial developments have been reported this season.

There is also a little scattered drilling in Manitoba with, so far, no commercial results.

In the Old Fields

In Ontario, drilling activity is pretty well confined to the natural gas companies, which, particularly in the Tilbury and Dawn Fields, are redrilling old areas and securing a number of small gassers. There is practically no wildcatting in progress, and no drilling for oil outside Camden Township, Kent County, where the Vacuum Gas & Oil Co. of Toronto and allied interests have put down a number of shallow wells, getting some production in the Onondaga limestone.

In general the older oil areas are continuing to decline in production, and efforts to develop new producing areas have been practically abandoned. Some interest is being shown in the possibilities of oil mining in the old shallow fields, but outside some core drilling by Imperial Oil, Ltd., in the Bothwell Field, no definite steps have been taken.

BRADFORD, ALLEGANY COMPLETE 1,134 WELLS

(Continued from Page 142)

Tidioute deep well and the Deemer deep test.

After getting to a depth of 4,368 feet the first deep test of the United Natural Gas Co. near Lamont in Highland Township, Elk County, was abandoned because of tools lost at this level. The rig was moved 50 feet and the new well, No. 3737, spudded in on May 5, 1926. Drilling continued steadily until a depth of 5,120 feet was reached, at which point a pocket of gas was encountered. Within the next 1,100 feet 18 pockets of gas were encountered, 14 of which were within 200 feet and four of which caused bad fishing jobs. Besides the pockets of gas, all of which exhausted in a short time, a slight flow of salt water was struck in the Oriskany sand horizon and a small flow of gas in the Bradford and Kane sands. The present depth is 6,145 feet with drilling progressing satisfactorily in a 10-inch hole. The pipe used in this hole consists of 42 feet 5 inches of 13-inch drive pipe and 376 feet 6 inches of 10-inch casing. At the present depth there are 5,769 feet of open 10-inch hole. This well is being drilled for the purpose of testing the Medina sand.

On September 6, 1925, the Fidelity Petroleum Corp. of Baltimore spudded in its deep test near Tidioute, Pa., with a 12½-inch hole. Drilling has continued with the usual interruptions until at the present time a depth of 5,500 feet has been reached. In drilling to this depth the test has encountered oil shows in the fourth sand, salt water in the Oriskany sand horizon and black water at 5,350 feet. Besides the drive pipe, 730 feet of 12-inch casing, 4,439 feet of 8¼-inch casing, 340 feet of 6¼-inch liner were set at 5,050 feet to shut off a cave and 250 feet of 5-inch line are now being set to shut off the black water. It is planned to drill this test to the Medina sand.

The deep test being drilled by F. C. Deemer in Gaskill Township, Jefferson County, was spudded in during September, 1924. The greater part of the past year has been spent in cementing off caving formations probably in the Marcellus shale. The last reported depth was 7,175 feet.

Outside of the Bradford end of the field the northwestern Pennsylvania territory was extremely dull during the first six months of the year. Prices for crude oil were so low as to discourage practically all of the operators.

In the Middle Field there were 25 completions with 55 bbls. initial production. This compares with 44 completions and 66 bbls. initial production for the corresponding period of last year. The Venango-Clarion territory reported 159 completions and 198 bbls. initial production, a decline of 6 completions from the figures for the first half of 1926. Butler-Armstrong had 57 completions and 99 bbls. initial production compared with 74 completions and 164 bbls. initial production for the first six months of 1926.

The following table summarizes field world in New York and northwestern Pennsylvania during the first six months of 1927:

Field—	Comp.	Prod.	Dry	Gas
Allegany	227	573	0	2
Bradford	907	1,986	1	2
Middle Field	25	55	0	1
Venango-Clarion	159	198	11	17
Butler-Armstrong	57	99	8	18
First 6 months, 1927	1,375	2,911	20	40
First 6 months, 1926	940	1,959	50	38
Total	435	952	30	2

UTILIZATION OF RESIDUE GAS INCREASES IN PLANTS

(Continued from Page 73)

in order to be certain that all foreign substance, as it gathers, is removed from our main transmission lines.

Regulation of Heat Value

The chemical composition of residue gas is such that it makes an ideal fuel, especially for industrial purposes. The heat value is usually higher than the ordinary dry natural gas. You may readily see why it is an excellent fuel for industrial purposes, as the ordinary commercial industrial burner is so designed as to permit the full utilization of the heating value of the fuel burned.

To the contrary, it is generally considered that this same condition does not hold true with domestic ulitization, as the average gas appliances for home use are adjusted to burn gas having 1,000 B.t.u As a consequence the consumer does not benefit by the increased heating value, rather is there a tendency to smoke cooking utensils.

The increasing amount of this residue or casinghead gas, and the development of the natural gasoline business is causing many oil operators to give a great deal of time and study to every practical method of getting the maximum financial yield from their oil properties, resulting in the construction of an exceedingly large number of natural gasoline plants.

Osage Big Residue Supply

The Empire Companies have been using residue for several years. The most prolific source of supply has been in the Burbank Field in Osage County, Oklahoma. We made our first connection with the Phillips-Indian Territory booster station at Pershing and started deliveries in February, 1921. This was followed by additional points of connection in the Osage, as well as elsewhere on our system, until at the present time we are receiving residue gas from 28 sources in 14 different fields.

The result of this effort to conserve for public utlization this hitherto wasted residue has necessitated the expenditure of millions of dollars in improved methods and operations; has been the cause of increased operating costs; the seeking of larger markets; and (in our own company alone) the saving to public use of more than 50.000,000 000 cubic feet of natural gas during the past six years.

NEW MEXICO TAX COLLECTIONS

The gasoline tax collections in New Mexico are increasing steadily, due to the 5 cents a gallon charge, figures from Santa Fe show.

For the first half of 1927 the collections showed a gain of $70,289.13 over the same period of 1926, when the gasoline tax was but 3 cents.

Total gasoline tax collections for the first half of 1927 amounted to $398,706.30, and for the same period of 1926 they amounted to $328,417.17.

SURVEY OF REFINERIES IN FOREIGN COUNTRIES

(Continued from Page 78)

which really can be called a refinery. That is the Burt-Bolton & Haywood establishment at Zelzaete, on the Terneuzen-Ghent Canal, just over the Belgian side of the Belgo-Dutch border. Burt-Bolton & Haywood is an English firm of timber merchants. A number of years ago it established a plant at Zelzaete for the refining of creosote from coal tar pitch for wood preservation purposes. From that attempt the firm has gone into petroleum refining on a small scale. Its plant is reported to have a capacity of 300 tons of heavy gasoline per month, but output doubtless never approached that figure. The best estimate obtainable places the output at not more than 200 tons per month. Until about a year ago the firm confined its activities very largely to refining gas oil, obtaining a very heavy gasoline and fuel oil. Recently, however, it has taken to buying occasionally cargoes of crude oil. It has no regular source of supply for crude oil, buying in the open market from America, Venezuela, or Rumania, as conditions dictate.

The only other plant in Belgium where petroleum products undergo refining processes is a very small installation at Ertvelde, operated by "Purifina," a distributing company. This plant is also near the Dutch border, on the canal mentioned above. The company turns out white spirit and compounds certain lubricating oils. At present it is using only Russian products, but its con ract with the Soviet organization will run out early in 1927, and it is said that it will not be renewed.

Gulf Port Shipments Increased in June on Refined and Crude

By P. L. McGreal

HOUSTON, Tex., July 25.—The movement of refinery products and crude from ports on the Gulf of Mexico during the month of June aggregated 18 573,111 bbls., which is an increase of 1,811,002 bbls. over May. It is also the largest amount during any month of the year to date.

The total refinery products was 11,532,605 bbls. and of crude 7,040,506 bbls. Compared with May this is an increase of 1,716,778 bbls. in refinery products, under which head is classified fuel oil and an increase of 94,224 bbls. crude.

The Humble Oil & Refining Co. leads with a total of 5,536,251 bbls. of refined and crude, or approximately 50 per cent of the gross for the month.

Exports

The export shipments were 2,436,180 bbls., an increase of 281,271 bbls. over May.

Gross for Six Months

The total shipments for the first six months of the year were 103,936 544 bbls., made up of 63,216,993 bbls. of refinery products and 40,719,551 bbls. of crude. The record for each month is as follows:

Month—	Refined	Crude	Total
Jan.	10,630,408	6,764,538	17,394,946
Feb.	9,916,684	6,977,382	16,888,066
March	10,637,489	7,070,736	16,708,225
April	10,689,980	5,920,107	16,610,087
May	9,815,827	6,946,282	16,762,109
June	11,532,605	7,040,506	18,573,111
Totals	63,216,993	40,719,551	103,936,544

The consignments during June by each company were as follows:

By The Texas Company
From Port Arthur
Refined

Coastwise	1,434,973
Export	328,232
Total	1,763,205

Crude—none.

By Gulf Refining Co.
From Port Arthur
Refined

Coastwise	2,602,977
Export	328,232
Total	2,931,209

Crude—none.

By Magnolia Petroleum Co.
From Beaumont
Refined

Coastwise	*1,629,446

*Magnolia makes no distinction between coastwise and export shipments.

Crude

Coastwise	888,753

By Sun Oil Co.
From Sabine Pass
Crude

Coastwise	790,879

By Pure Oil Co.
From Smith's Bluff
Refined

Coastwise	193,077

Crude

Coastwise	683,145

By Humble Oil & Refining Co.
From Neches Terminal (Orange)
Crude

Coastwise	58,757

By Atlantic Oil Producing Co.
From Beaumont
Crude

Coastwise	398,051

By Atlantic Oil Producing Co.
From Atreco
Crude

Coastwise	235,695

By Humble Oil & Refining Co.
From Texas City
Crude

Coastwise	1,892,110

By Humble Oil & Refining Co.
From Baytown
Refined

Coastwise	1,528,412
Export	715,428
Total	2,243,840

Crude

Coastwise	1,219,385

By Humble Oil & Refining Co.
From Ingleside
Crude

Coastwise	122,159

By Sinclair Refining Co.
From Houston (Sinco.)
Refined

Coastwise	398,104

Crude

Coastwise	362,896

By Crown Central Petroleum Co.
From Houston (Pasadena)
Crude

Coastwise	125,617

By Swiftsure Petroleum Co.
From Texas City
Crude

Coastwise	233,059

By Galena-Signal Oil Co. of Texas
From Houston (Galena)
Refined

Coastwise	83,000

By Deepwater Oil Refineries
From Houston
Refined

Export	80,000

By Keen & Woolf Oil Co.
From Houston
Refined

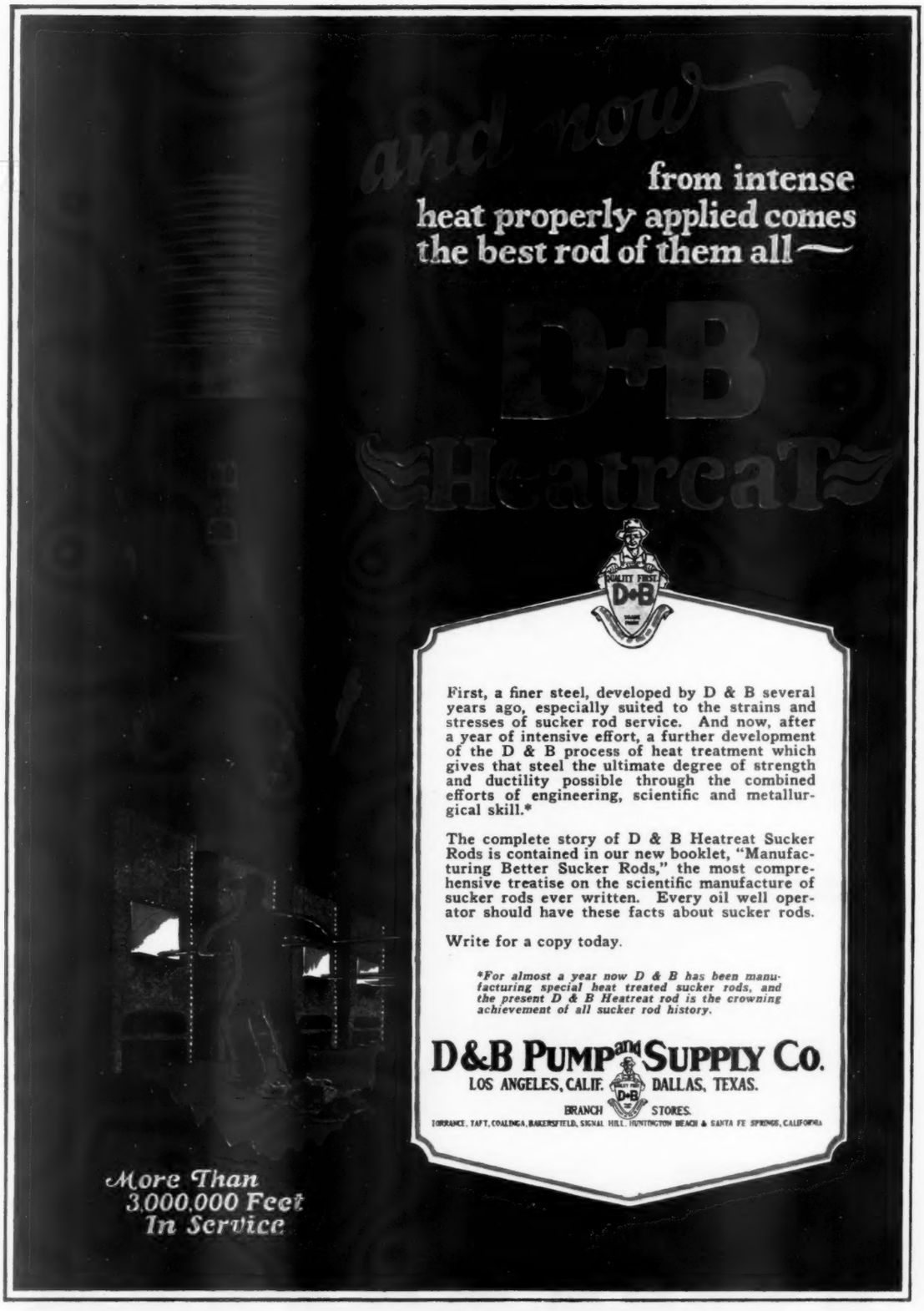
Coastwise	56,000

By Standard Oil Co. of Louisiana
Refined

Coastwise	1,170,436
Export	984,288
Total	2,154,724

SUMMARY

Company and Port—	Refined	Crude	Total
The Texas Company, Port Arthur	1,763,205	.....	1,763,205
Gulf Refining, Port Arthur	2,931,209	.....	2,931,209
Magnolia Petroleum Co., Beaumont	1,629,446	888,753	2,518,199
Sun Oil Co., Sabine Pass	.....	790,879	790,879
Pure Oil Co., Smith's Bluff	193,077	683,145	876,222
Humble Oil & Refining Co., Neches Terminal	.....	58,757	58,757
Atlantic Oil Producing Co., Beaumont	.....	398,051	398,051
Atlantic Oil Producing Co., Atreco	.....	235,695	235,695
Humble Oil & Refining Co., Texas City	.....	1,892,110	1,892,110
Swiftsure Petroleum Co., Texas City	.....	233,059	233,059
Humble Oil & Refining Co., Ingleside	.....	122,159	122,159
Humble Oil & Refining Co., Baytown	2,243,840	1,219,585	3,463,225
Sinclair Refining Co., Houston	398,104	362,896	761,000
Crown Central, Houston	.....	125,617	125,617
Galena-Signal, Houston	83,000	.....	83,000
Deepwater Refining, Houston	80,000	.....	80,000
Keen & Woolf, Houston	56,000	.....	56,000
Standard of Louisiana, Baton Rouge	2,154,724	.....	2,154,724
Totals for June	11,532,605	7,040,506	18,543,111
Totals for May	9,815,827	6,946,282	16,762,109
Difference	1,716,778	64,224	1,781,002
EXPORTS			
The Texas Company, Port Arthur	328,232	.....	328,232
Gulf Refining Co., Port Arthur	328,232	.....	328,232
Humble Oil & Refining, Baytown	715,428	.....	715,428
Deepwater Refining, Houston	80,000	.....	80,000
Standard of Louisiana, Baton Rouge	984,288	.....	984,288
Total for June	2,436,180	.....	2,436,180
Total for May	2,130,458	24,351	2,154,809
Difference	305,722	.....	281,271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In Service

New Nuttall Pump Gear Units

To meet every possible service condition we have added four new double reduction pump gear units to our present standard line. These units are styled the OP-13, OP-14, OP-15, OP-16.

The OP-13 and OP-15, double reduction, units are designed to take either a 15-35 h.p. or 20-50 h.p. electric motor or a gas or oil engine of equivalent rating. The OP-13 unit has a crank shaft length of 7 feet 6 inches; the OP-15 crank shaft length is 5 feet 6 inches. The shaft lengths of these units conform to A.P.I. rig iron standards, and allow a sprocket to be placed on the shaft extension to drive the calf wheels or production hoist. A sprocket on the intermediate shaft can be used to drive a sand reel.

The OP-14 and OP-16 are designed with a motor rating of 25-65 h.p., and have crank shaft lengths of 7 feet 6 inches and 5 feet 6 inches, respectively.

These units are identical with the OP-11 and OP-12 with the exception of the longer shafts. They have Nuttall BP "tough-hard" gears with ground teeth; roller bearings thruout; positive splash lubrication; and a sturdy, rigid case. All units have the exclusive "change gear" feature for easily varying the reduction.

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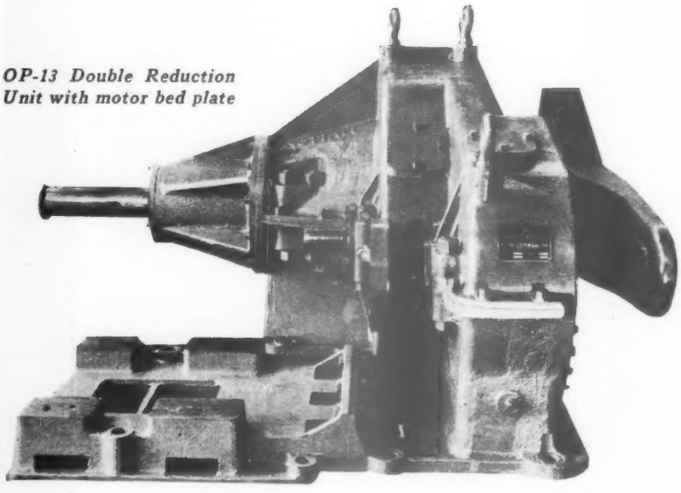

Nuttall

NEW FIELDS ARE OPENED IN CALIFORNIA

(Continued from Page 90)

bbls. per day during the early part of January to a high of 74,000 bbls. reached on June 18. Huntington Beach and Seal Beach are both declining.

Several fields showed violent fluctuations in production during the first half of 1927, some being higher and others lower than the output registered at the close of last year. Attention is respectfully directed to the production table by districts which accompanies this report and shows the individual output of each field during the past six months. The variations shown by Huntington Beach and Seal Beach have already been accounted for, the drop in the former being due to the conclusion of development work in the town lot area and the jump in the latter attributed to increased drilling at Alamitos Heights. Brea Olinda is down very substantially, not on account of any settling in production but almost entirely because of curtailment measures initiated by the Union, Shell and General Petroleum on or about May 1 in order to alleviate conditions as much as possible. These companies incidentally have an undrilled reserve in this area which will be heard from again at a later date.

Daily production in the Ventura Avenue Field during the past month, June, was considerably less than the output registered by this district during January. It will be noted that most of the decline took place during May. This drop was also due principally to the shutting in of production at the beginning of that month in order to offset the big increase shown by Seal Beach amounting to approximately 55,000 bbls. per day since the first of the year. The drop at Elk Hills between January and June is due to a combination of reasons, decreased drilling, settling in production, further curtailment of production and the shutting in of Naval Reserve production by the United States Government. The decline shown by Rosecrans and Inglewood can be attributed to the suspension of drilling activities by the Union and Barnsdall and a gradual normal settling in old producing wells. Santa Maria showed a slight increase in daily average production during the month of June as a result of the action of the Union Oil Co. in opening up some of its wells which had been closed in for a long time.

Now Lower Than Average

Total state production at the present time, approximately 620,000 bbls. is somewhat lower than the average output during the month of June and, while a further gentle decline can be anticipated if none of the curtailed wells are disturbed, one should not get the impression that this drop will continue uninterrupted during the next six months for present indications all point the other way. With another possible new field or two in the offing and a deep sand at Alamitos Heights still untried on top of the structure, only a confirmed optimist can see any substantial improvement in the local situation for the present. Later developments might prove somewhat more favorable, however, but right now conditions look rather gloomy as far as the total potential production is concerned, although operators should be able to prevent any very large increase in actual production by continuing their present policy of shutting in wherever possible.

The facts remain, however, that conditions will not become entirely stabilized as long as there is any considerable amount of production shut in above market requirements, as the threat is still there.

Regardless of the outcome of the deep sand at Seal Beach and the two or three wildcats which look rather threatening at present, the industry can rest assured of one thing and that is that California is now and will continue to produce in excess of her normal requirements for the entire year of 1927 and undoubtedly far into 1928. This surplus must be disposed of in foreign markets or tankered to the Atlantic and Gulf Coast areas.

The inability of Pacific Coast markets to entirely absorb California's surplus production of crude and refined oils will result in a continuance of present tanker movements, provided prices are favorable enough to justify this policy. Most California operators continue to accumulate heavy crude and refinery residuum apparently hoping that some day the demand will surpass the supply and enable them to dispose of it to advantage. Some of this stock can be cracked to advantage with certain types of equipment but right now that day seems to be over a year away.

Disposing of Fuel Oil

Pan American Western has apparently decided that it is unwise to continue accumulating heavy crude and refinery residuum for this company recently contracted to supply the Navy with 5,000,000 bbls. of fuel oil at what many term a very low figure. In the final analysis, however, the writer wonders if it is not more advantageous to dispose of some of the surplus at the Pan American's offer of 64½ cents per barrel instead of continuing to accumulate what has practically always been a drug on the market.

If California operators had pursued the policy of disposing of a part of their fuel oil surplus during the past three or four years they would not be burdened with the excessive large stock of heavy crude and fuel oil now on hand. In addition to the physical existence of large quantities of fuel oil, operators have been carrying a heavy financial burden involving the cost of the oil in storage and cost of erecting surplus tankage not to mention the interest on the money tied up in this manner. It is interesting to note in this connection that California operators have had several opportunities to dispose of fuel oil under favorable conditions, quotations on at least one occasion since 1923 reflecting the demand for this commodity. It might be well for California operators to take stock in the near future and consider the possibility of having to buck South American crude oil which up to the present time has not interfered to any appreciable extent with either intercoastal or export shipments.

Tanker Shipments

Tanker shipments to Atlantic and Gulf Coast ports during the past 18 months have been unusually steady and, while liftings have naturally varied somewhat from month to month, the total cargo handled during each six months' period has been exceptionally close. For example, during the first half of 1926 a total of 16,641,452 bbls. of crude and refined oils left California destined to the east coast. During the last half of 1926 liftings aggregated 16,842,736 bbls., a difference of only 201,284 bbls. During the first six months of the current year California producers loaded a total of 16,746,655 bbls. into tankers headed for the east coast. Intercoastal shipments of gasoline have shown a steady increase during the past 18 months following a rather perceptible drop during the early part of 1926. Peak shipments of gasoline to the east coast were reached in 1925 when a total of 9,812,672 bbls. left California ports. Loadings during the last half of that year aggregated 5,150,739 bbls., as compared with 3,952,086 bbls. during the first six months' period of the following year, 1926. The last half of 1926 saw 4,495,380 bbls. shipped to the east coast, slightly lower than the total liftings of 5,170,272 bbls. during the first half of 1927. Intercoastal shipments of naphtha and tops during the past 18 months have been almost negligible, only 369,474 bbls. of this commodity going east during the past year and a half. Not a single loading was made during the year 1927 to date. Shipments of fuel, Diesel and gas oil during the past two months have been considerably lower than heretofore, but this deficit has been more than offset by increased liftings of crude oil.

Export Shipments

Total export shipments of crude and refined oils to Pacific and Atlantic foreign ports during the past 18 months shows the same stability as intercoastal movements. Total bulk exports aggregated 19,107,925 bbls. during the first half of 1926 and 20,238,964 bbls. during the last half. Export liftings during the first six months of 1927 total 23,978,803 bbls. These figures indicate an increasing tendency but nevertheless the change during these three periods is only relatively slight when compared with the total amount handled. Exports of lubricating oils and tops have held rather steady during the past year but loadings of fuel, gas oil and Diesel on the other hand have shown an appreciable increase. Export shipments of fuel oil totaled 11,208,920 bbls. during the first half of 1926 and 11,908,399 bbls. during the last half as compared with 15,984,196 bbls. during the first half of 1927. Crude oil shipments to foreign ports during the past six months were considerably below the daily average maintained during the year 1926. One of the most interesting developments in the export trade was the big loss registered in export shipments of California kerosene. This was no doubt due to the unsettled conditions which have prevealed in China during the past year and marketing companies having distributing facilities in China are not carrying large stocks of refined products inland as heretofore. Storage is being maintained principally at seacoast ports due to the safety factor involved. Ship masters returning from the Orient report a very chaotic state of affairs and the absence of a stabilized currency has no doubt been a big factor in cutting down sales particularly in interior China.

Total Fluid Stocks

Total fluid stocks held in the entire Pacific Coast territory declined 2,543,802 bbls. during the past six months, the biggest drop being registered by light refining crude which showed a loss of 4,001,422 bbls. since January 1. Heavy crude and fuel oil on the other hand increased 2,488,310 bbls. during the same period bringing the total on hand at the close of June to 91,878,389 bb's. Present refinable crude oil stocks of 27,175,071 bbls. are 17,974,595 bbls. below the high of 45,149,666 bbls. on hand May 31, 1925. Something like 4,600,037 bbls. of this decline was lost in the lightning fires of April, 1926. Gasoline stocks have not shown any appreciable change during the past six months, the net increase being only 126,680 bbls. Storage of this commodity seems rather high, however, as there were 13,496,541 bbls. on hand at the close of June last. Refiners continued to reduce their stocks of naphtha distillates and tops, the draft since January 1, last, being over 11 per cent. or 466,397 bbls. to be exact. Unless the present operating status of refineries is changed it is logical to assume that a further decline can be expected until the storage of this commodity reaches that point consistent with well balanced operations. Some companies will of course continue to maintain relatively large stocks of tops in order to facilitate refinery work and reduce operating costs by utilizing existing storage facilities. The extensive preparations undertaken since the disastrous fires of last year to reduce the lightning hazard to a minimum have apparently performed their mission, according to Hayle, at least no losses have been sustained since April of 1926. The effectiveness of this equipment in preventing fires from static electricity as a result of direct or indirect hits is a matter of conjecture. Present construction is theoretically correct according to all eminent authorities and in all probabilities the equipment now in use will prove adequate protection against the elements.

Field Operations

There were 531 new wells finished during the first half of the current year, notwithstanding the fact that development work in most of the older fields of the state was cut down to a minimum and in some cases discontinued entirely. This is considerably in excess of past averages and in only one other case has there been a larger number of completions recorded during the first half of any calendar year. This was in 1924 when 688 new wells were finished during the first six months. The total initial daily production of new wells finished this year to date aggregated 314,141 bbls. and averaged 592 bbls. to the well. The total new production is also considerably higher than past averages and ranks second after the high of 644,368 bbls. from 387 new wells established during the first half of 1923 when Santa Fe Springs was on the way up. Huntington Beach, Seal Beach, Midway-Sunset, Kern River, Ventura Avenue, Richfield and Long Beach were the most active during the past six months' period. These seven fields accounted for 445 of the 531 new wells finished during the first six months of the current year and it is needless to say that they also contributed most of the new production added. Huntington Beach with 133 new wells and Seal Beach with 111 headed the list as far as the number of completions were concerned, intensely developed town lot area in each case being responsible for the unusually large amount of new work undertaken. Midway-Sunset, which is really two separate fields, ranked third with 73 new wells, followed by Richfield with 41, Kern River with 35, Long Beach with 28 and Ventura Avenue with 24. Seal Beach, as would naturally be expected, showed the largest aggregate initial daily production of new wells and incidentally registered the highest initial production per well, 1,441 bbls. Ventura Avenue's 24 new producers yielded a total of 33,584 bbls., or an average of 1,399 bbls. per well. Completions in the Long Beach Field averaged 586 bbls. per well, Midway-Sunset 133 bbls., Kern River 149 bbls., Brea Olinda 483 bbls. and Rosecrans 690 bbls.

Extension at Richfield

One of the most interesting developments in connection with drilling operations during the first half of this year was the increased amount of work undertaken at Richfield due to the extension of that field during the latter part of 1926. Forty-one new wells, which yielded an aggregate initial daily production of 11,981 bbls. and averaged 292 bbls. to the well, were finished in that field during the first six months of this year and since there are 27 drilling projects now under way, completions during the last half of 1927 should continue at about the current rate. At the close of June there were 69 wells drilling at Seal Beach and Alamitos Heights, 36 at Huntington Beach, 23 at Richfield, 17 at Long Beach and 16 at Kern River. At the close of the month there were 396 incompleted projects throughout the entire state, with indications pointing to a continuance of the present high rate of development. Several very promising wildcat areas are being tested out at the present time and one or more new fields seem almost certain to be opened up during the coming six months' period. The Chanslor-Canfield Midway Oil Co. is expected to discover a new field in the Seacliff-Rincon area in Ventura County and reports from various other sections indicate further possibilities of new fields being opened up. The Pacific-Eastern Production Co. (Gulf) is at present working on a rather promising structure near Bakersfield with a good possibility of meeting with success. This hole recently blew out and, while no oil was in evidence, it had previously shown some favorable indications along that line. This wildcat will bear watching, notwithstanding the fact that marsh gas accumulations are quite prevalent all through the San Joaquin Valley and this may only be another teaser. The reported concrete evidence of the presence of a thin oil sand through the medium of core samples tends to confirm the opinion of many that the Gulf stands an excellent chance of opening up a new field. The Potrero district in southern California is still an unknown factor and although five or six dry holes have already been drilled in this section, the most promising acreage is still untested and may continue so unless the Associated decides to resume drilling in its No. 1 Cypress, which has been standing cemented in an untested oil sand for nearly eight months. Kern and Ventura Counties may possibly each yield a new field during the course of the next six months, as a larger amount of drilling will be undertaken in those areas from now on. The Standard has found some favorable indications in a wildcat at Camarillo in Ventura County and, while the company's present test may not result in production, additional drilling may prove productive. At any rate the Standard has encountered some exceptionally favorable indications.

KENTUCKY-TENNESSEE

(Continued from Page 68)

ent producing pools. Just now the Sunnydale area of Ohio County, southeast some 4 miles from the Ambrose Pool, is getting a nice play. Should a few wells of the century class be found there, then work will go with a rush, similar to what was down in the Ambrose Pool after James C. Ellis opened up the good production on the J. R. Weller 110 acres. That lease has 21 producers on the pump, the smallest of which had an initial production of 90 bbls., which was No. 19, and three more wells, Nos. 22, 23 and 24, are reported showing equally as well as other wells on the lease.

The bringing in of a nice producer on the General Wood 2,700-acre farm along the Glasgow Pike, between Glasgow and Scottsville, in Allen County, will bring more development to that part of the county. Allen County has been rather quiet for a few years, but few wells like the Wood well will bring about a renewal of operations.

Ohio County

The best completions reported for the week in the Ohio County Field was in the Ambrose Pool, where the Wood Oil Co.'s No. 9, 200 feet from the south line and 1,580 feet from the east line of the Mary J. Elmore 100 acres, showed an initial of 150 bbls., after an 80-quart shot. In this well a string of 615 feet was set on top of the sand which was drilled through the sand at 657 feet and went to a total depth of 668 feet.

Creek Drilling Co.'s No. 5, located 150 feet from the north line and 1,450 feet from the west line of the Sally Early 112 acres, south of the Weller farm, in the same pool, set a string of 554 feet of casing where the top of the sand was found and drilled through 60 feet of sand to a total depth of 614 feet and shot with 180 quarts, the well for the first 24 hours tanking 125 bbls. No. 7 is drilling.

North of the Ambrose Pool, the Rex-Pyramid Oil Co.'s second test on the J. L. Sennett 210 acres is credited with an initial of 8 bbls. Casing was set on top the sand at 682 feet and drilled to a total depth of 707 feet and shot with 60 quarts.

Southwest of the Weller 110 acres, Lee and Engle are said to have drilled a dry hole 200 feet from the north line and 800 feet from the east line of the J. I. Bartlett 100 acres, at a depth of 650 feet.

West some distance from the Ambrose Pool and still west of Union Grove Church, J. D. Russell drilled a dry hole on the Elijah Massie property, going to a depth of 1,060 feet. James C. Ellis is reported to have drilled in his first dry hole, not on his big producing Weller lease, but on the Parks property.

In the Ward-Evans Pool, north of the Midkiff Pool, the White Plains Oil & Gas Co.'s No. 7, located 175 feet from the north line and 600 feet from the east line of the John C. Ward 50 acres, and adjoining the Claude Farmer 320 acres, was a dry hole at 583 feet.

H. A. Henry, who recently purchased the holdings of the Kentucky Oil Co., in the Ohio County Field, is in the sand with his No. 6 on the Nora Chambers 85 acres, near the Panther Creek Church, in the northern part of the county. This well is 800 feet south of No. 1 on the farm and is 201 feet from the east line of the lease.

The Chicago Petroleum Syndicate's No. 5 on the Crow 20 acres, in the Swope Pool, is making a showing for an average producer.

James C. Ellis took over leases on 650 acres, near his big Weller lease, and the reported price was $25 per acre.

Daviess County

The Petroleum Exploration Co.'s second well, 200 feet from the south line and 600 feet from the east line of the Frank F. Coomes 78 acres, in the Roby Pool, in Daviess County, is a 25-bbl. initial producer. This is southwest of Pellville, where the Leeper Oil Co. recently opened the pool with a well on the Roby farm.

Barren County

In the Glasgow Field of Barren County, in the Lecta Pool and its recent extensions, Hunt, Leach & Mitchell's No. 16 on the Vance G. Taylor farm showed an initial of 15 bbls. J. D. White's No. 1 on the Atwood farm produced 5 bbls. initial. Sanson Oil Co.'s No. 1 Bulah Morgan farm is a 6-bbl. pumper, while No. 1 on the Howard farm, owned by the same company, showed 3 bbls. Ziegler Brothers drilled a dry hole in a test on the Cary farm.

In the Haywood Pool, the Little Colonel Oil Co.'s No. 10 on the Tom Smith farm is a 10-bbl. initial producer.

Foster Mitchell drilled a 10-bbl. pumper in a test on the Winston Browning farm in the South Fork Pool.

In the Gorby Pool, Helper & Gorby's No. 7 on the O. L. Gorby farm showed an initial of 6 bbls.

Other Wells

Along the Glasgow Pike about 10 miles northeast of Scottsville, in Allen County, the Mid-Southern Oil Co.'s No. 11 on the General Wood 2,700-acre ranch is reported better than 100 bbls., making it the best completion for this county for a few years and may bring about a more thorough testing of that part of the county.

In the Bowling Green Field of Warren County, the Cadet Oil & Gas Co.'s No. 22 on its own farm, 12 miles west of Bowling Green, in Warren County, was a dry hole in the deep sand at 1,230 feet.

CENTRAL WEST FIELDS

(Continued from Page 68)

well in a test in the southeast corner of the J. Bainbridge 7 acres, same lot. Daugherty & Dempsey are drilling a test in the northeast corner of the B. C. Austin 21 acres, Lot 32, and Arthur & Simpson are drilling a test in the northeast corner of the G. W. Wagner 43 acres, also in Lot 32. East Ohio Gas Co. is drilling a test in the northeast corner of the J. W. Dorsey 30 acres, Lot 49, Strongville Township, same county, and set a stake for a test in the northwest corner of the O. Mandelkow 16 acres, Lot 32, same township.

East Ohio Gas Co. is drilling a test in the northwest corner of the I. J. Woodruff 113 acres, Section 7, Richfield Township, Summitt County.

Indiana

Only one completion was reported from the Indiana Field during the week. In the southwestern part of the state, in Center Township, Gibson County, Joe S. Young and others' No. 3 in the northeast corner of the Margaret D. Hollingsworth farm, in the SW, Section 13, which tapped the sand at 1,418 feet and went but 4 feet in the sand where the well showed an initial production of 70 bbls. Center Township, of this county and Veale Township, of Daviess County appears to get the large producers of Indiana at this time, having within a few weeks showed a few wells in the 200-bbl. class or better.

In Monroe Township, Pike County, the Murphy Oil Co. abandoned No. 3 on the Warrick Mason farm, Section 26.

Michigan

Eight completions are reported from the Saginaw Field, since the last report, the wells all being average producers from the Berea sand. The best showing of these wells was on the east bank of the Saginaw River, where the Fordney Petroleum Co.'s No. 1 on the Eastwood Glass Co.'s property, on the east side of Water Street, between Carroll and Fitzhugh Streets, tapped the Berea at 1,813 feet and drilled 20 feet in the sand and shot with 80 quarts, showing for 30 bbls. Same company's No. 1 on the Clarey property, on North Fayette Street, between Cronk and Davenport Streets, is said to show for 15 bbls. with sand topped at 1,808 feet and drilled 19 feet in the sand.

The Saginaw Prospecting Co.'s No. 4 on the Northmoor Subdivision, struck top of Berea at about 1,815 feet and went 19 feet in the sand, is showing for a 15-bbl. pumper, as is its No. 2 on the August Kruska farm, in the SW, Section 11, Saginaw Township, which got the top of the sand at 1,829 feet and went 19 feet in the sand.

Sun Oil Co.'s No. 3 on the Louis Voight farm, in the SE. Section 10. Saginaw Township, is reported around 10 bbls. Top of sand at 1,846 feet and drilled 17 feet in the sand. Same company's No. 3 on the Neurminger farm, Section 11, struck sand at 1,829 feet and drilled 17 feet in, getting what shows for 15 bbls. initial.

The Ohio Oil Co.'s No. 1 on the M. Frantz property on the Shattuck Road west of the Bay Road, is said to look like a 10-bbl. pumper.

Superior Oil Co.'s second well on the John King property, south of Weiss Street and east of Eddy Street, is reported at 20 bbls. initial. Sand was tapped at 1,806 feet and drilled 16 feet in the sand.

Several wells over the field are nearing the pay sand and should be completed within a very few days. The Berea sand has been found to be the most dependable and the supposition is that but few will be drilled to the Saginaw or Dundee sands, unless the upper sand proves dry, then deeper drilling may be continued.

The Sun Oil Co.'s No. 1 on the Ferdinan Stelzreide farm, at the north edge of the field and the one that came in a gusher in the Saginaw sand, is reported to have dropped to around 5 bbls. per day and during the week was given a shot in hopes of bringing back better production, but reports are that the shot showed no effect in quantity of crude produced daily.

Smith and Norris, well known oil operators of West Virginia, have invaded Saginaw County and reported to be leasing a large block of acreage in the southwestern portion of the county, with a view of doing some test work. The Register of Deeds record shows that they have filed for record 110 leases in that part of the county.

The Sun Oil Pipe Line Co. is reported to be stringing a line about 4 miles in length from its well on the McGinneas farm, in Shiawassee County to Owosso, to take care of the production. When the line and storage is completed, no doubt the well will be drilled some deeper. It is reported to be doing from 10 to 15 bbls. daily with the sand only scratched. This company is starting another test some 13 miles southwest of the McGinneas well, on the Gallager-Scully land, in Antrim Township, same county.

Report from the southwestern portion of Saginaw County, is that a test is to be drilled on the George Harris land, a short distance west of the town of Chesaning, far removed from production.

EASTERN FIELDS

(Continued from Page 66)

Mason Springs farm, northwest quarter Section 28, Harrison Township, Perry County, Ohio. It was drilled to the Clinton, a depth of 3,527 feet, and after shot produced 40 bbls. the first 24 hours. In southeast quarter Section 24, the Logan Natural Gas & Fuel Co. drilled in its No. 1 on the Almeda Linton farm, Green Township, Hocking County, to the Berea grit, at 945 feet, and it is good for 250,000 feet of gas.

Featner & Co. completed their test No. 1 on the John Featner farm, southeast quarter Section No. 1, Cross Creek Township, Jefferson County, to the Berea, a depth of 1,690 feet, and it produced 4 bbls. the first 24 hours after shot.

Athens County

The Biddle Oil & Gas Co. completed No. 10, John F. Biddle heirs farm, Alexander Township, Athens County, to the Berea grit, at 1,182½ feet, and it is good for a 4-bbl. producer. In the same county, Canaanville, Canaan Township, W. W. & A. T. Wehrle completed their test on the J. G. Hope farm to the second grit and it shows for one-half bbl. well and will be abandoned.

The week-end completions in West Virginia were small in number and size. On Mayberry Run, Murphy district, Ritchie County, Daniel O'Day estate completed their test on the Daugherty heirs farm and have a gasser in the salt sand. The South Penn Oil Co. completed its No. 22 Susan Grant in the Berea grit, and it is dry. This well is located in Walker district, Wood County. Another duster was completed in Troy district, Gilmer County, and this one was the test on the Cecil McQuard farm by the Carnegie Natural Gas Co. It was drilled to the Gordon sand at 2,530 feet.

Drilling Operations

The Pittsburgh & West Virginia Gas Co. is making a road for its test on the Andrew Alberts farm, Barboursville district, Cabell County. The Commercial Gas Co. has rigged up for its test on the Joshua Nicely farm, McComas district, Cabell County. In Henry district, Clay County, the United Fuel Gas Co. has a fishing job at 1,860 feet on the J. M. and Emma Gross farm. In Union district, Clay County, the Bird Oil Co. has a rig completed for No. 3 on the G. S. King farm, and part of the material on the location for No. 5 on the same farm. In Union district, Clay County, A. G. Womack and others are grading their location for their test on the W. H. Evans farm.

In Kanawha County, Big Sandy district, the Clendenin Development Co. has a rig ready for its test on the Louis Y. Blackwell farm. The Clendenin Gas & Gasoline Co. has two new locations in Elk district, Kanawha County, the first for a test on Frank J. Kendall farm, and the other for a test on the David W. Rider farm. In the same district and county, S. H. Hall spudded in and started to drill his test on the L. N. Newhouse farm.

McCorkle & McClintic are drilling their No. 1 on their farm, Scott district, Putnam County. G. L. Cabot has a rig up for his test on the John Smith farm, Geary district, Roane County, and part of the material on the lot for his test on the Rex Smith farm, same district and county. Sam Glenn and others are drilling their test at 150 feet on the Margaret Saunderman farm, Washington district, Pleasants County. The Star Oil & Gas Co. have their rig material on the ground for their test on the S. B. Wiseman farm, Troy district, Gilmer County. In Mannington district, Marion County, Monroe & Laughlin have their road completed for their test on the J. W. Tennant farm.

The Pittsburgh & West Virginia Gas Co. is drilling No. 2 on the T. E. B. Seiler farm, Peytona district, Boone County, at 3,865 feet, and it is about due. In Boone County additional development work is as follows. In Crook district, E. R. Cameron has a location for test No. 1 on the E. R. Cameron and others farm, and also location for No. 1 on the Fred Lawson farm. In Scott district, the Hope Natural Gas Co. has rigged up for test on the Chambers-Stowers lease. In Washington district, the Owens Bottle Co. has a rig ready for their test on the W. S. Hatfield farm.

Mingo Pool Development

The Old Colony Oil & Gas Co. is continuing operations in its development in Mingo County, and is preparing to continue a drilling program regardless of the depression. In Harvey district it is spudding in for No. 15 Closterman. It is drilling No. 7 Logan at 130 feet. The rig on No. 25 Logan has been skidded to the location for No. 26 Logan. The rig is going up for No. 27 Logan. The rig on No. 9 Closterman is being moved back to No. 6 Closterman to drill deeper, as No. 6 is only to the top on the Maxon sand, and they expect to drill 40 feet deeper. The average depth of the Maxon in this pool is about 1,500 feet.

Southwest Pennsylvania

In Whiteley Township, Greene County, the Peoples Natural Gas Co. completed No. 2 on the Nicholas Levingood farm to the Bayard at 3,340 feet and has a light gasser. John Blair drilled his No. 3 on the John Blair farm to 2,715 feet and has a light gasser. This is located in Richhill Township, Greene County.

No additional completions were reported in this field. The following wells have started drilling. The Carnegie Gas Co. is drilling its test on the Ed Haines farm, Perry Township, Greene County, and is at 410 feet, and is drilling a test on the H. M. Fordyce farm, Greene Township, same county, at 270 feet. The Peoples Natural Gas Co. has reached 560 feet in the test on the Ross Husk farm, Green County.

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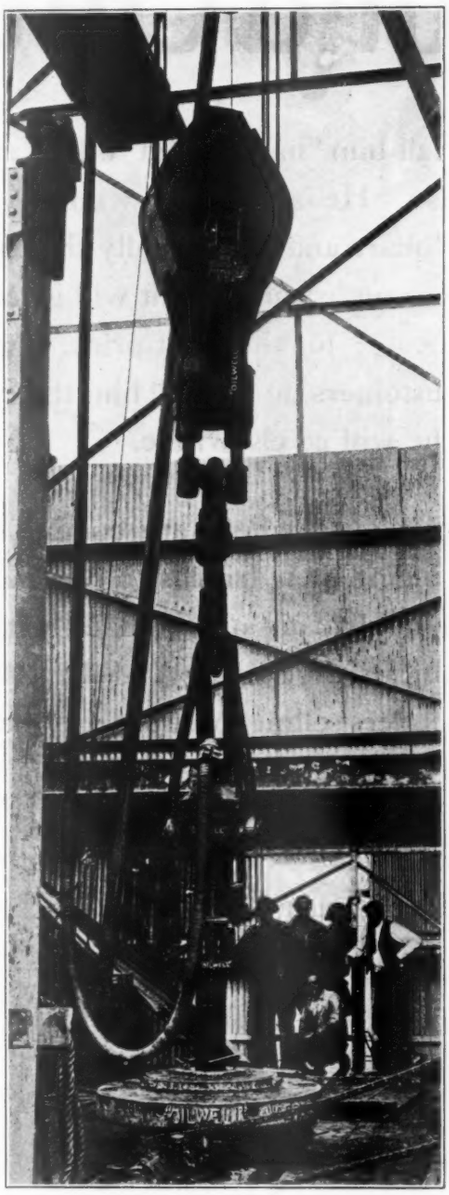

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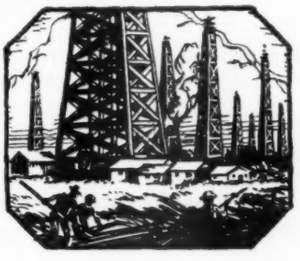

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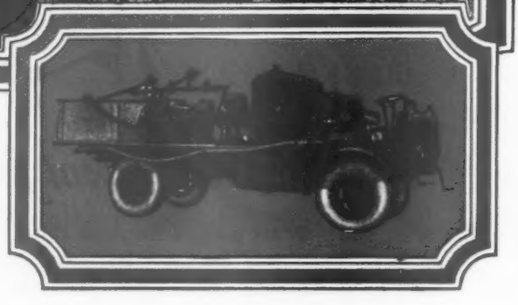

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SOUTHWEST TEXAS

(Continued from Page 57)

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Mirando Valley—Zapata

Killam-Duggan's No. 2 R. B. Cuellar, Cerrito Blanco Grant, 1,500 feet to northwest and 2,700 feet to northeast lines is drilling at 1,430 feet.

Charco Redondo Field

Duke and others' No. 3 Martinez, Block 22, located 150 feet to southeast and southwest lines is drilling at 400 feet. Harlingen Oil & Gas Co.'s No. 5 Martinez, located 750 feet to southwest and 150 feet to southeast of Hull test is testing at 1,021 feet.

Somerset—Bexar

Associated Petroleum Co.'s No. 3 Ernest, Survey 266 is location 550 feet west of No. 1; No. 3 J. Kohler, Survey 625 is location 516 feet north of No. 2; No. 4 H. Kohler, Survey 49, is location 550 feet west of No. 3. G. E. Ginter's No. 1 Gayle, C. A. Yoakum Survey, is location 2,750 feet to north line and 150 feet to east line. Grayburg Oil Co.'s No. 38 Ernst, W. C. Brown Survey, 825 feet to north line and 2,009 feet to west line is drilling out plugs. N. A. Saigh's No. 4 Fress, Survey 49, is location 740 feet northeast of No. 3. C. L. Witherspoon's No. 1 Kerr, 1 mile from Medina River is drilling at 400 feet.

Luling Field—Caldwell

Magnolia Petroleum Co.'s No. 10 Tiller, J. Henry Survey, 400 feet southwest of No. 1 is drilling at 1,818 feet. North & South's No. 1 Kelly is drilling at 6,956 feet; No. 2 Tiller is drilling at 6,412 feet.

Kleberg County

Houston Oil Co.'s No. 1 Kissman, Section 41, Block 9, is moving in machinery. Humble Oil & Refining Co.'s No. 4 R. J. Kleberg, Block 6, Section 40, located 660 feet to east and 810 feet to south lines is drilling at 1,900 feet; No. 1 Kivlin, Section 39, Block 4, NW cor., is trying to shoot casing at 3,900 feet to make well at 2,240 feet; W. L. Pearson's No. 1 Rotge, 8 miles southwest of the Kleberg Field has derrick up.

Ina Field—Medina

Golden West Oil Co.'s No. 7 Schmidt, Durst Survey No. 15, located between Nos. 2 and 6, drilling with cable tools is at 160 feet and showing quite a little gas.

Adams Gas Field—Medina

Western Gas & Fuel Co.-Medina Syndicate's No. 3 Chandler, at 965 feet tested salt water and will drill deeper. Western Gas & Fuel-Witherspoon Oil Co.'s No. 3 Adams, Block 7, at 400 feet to east line of lease is rigging up. Witherspoon Oil Co.'s No. 1 Nixon, Survey 63, located 635 feet to NW cor., is rigging up; No. 1 L. J. Schmidt, Survey 526, located 800 feet to north and 400 feet to east lines at 962 feet tested salt water and will drill deeper; No. 1 Nixon, Survey 527, located 800 feet to south and 400 feet to east line is location.

Rockdale Field—Milam

Wills Oil Co.'s No. 1 Akes, is drilling deeper. Coffield & Hale's No. 1 Shelton has casing cemented to drill in. Noack & Laning's No. 1 Neely, William Allen Survey, 150 feet to SE cor., had fair showing of oil but casing was cemented 80 feet off bottom and well is also having liner trouble and has not been completed.

Crowther Field—McMullen

E. R. Marts' No. 8 Poitevent, Survey 56, is location 1,250 feet to south line and 150 feet to southwest lines; No. 10 Poitevent, Survey 56, is location in NW cor.; No. 4 Farmers Insurance, James Freal Survey is location 4,300 feet to east line and 2,000 feet to south line.

Refugio Gas Field

William F. Morgan, Inc.'s No. 8 Lambert is location 1,000 feet north of No. 1. Houston Gulf Gas Co.'s No. 1 Heard, is location in SW cor. of lease; No. 4 Shelly is standing at 2,100 feet. Houston Oil Co.-Pratt Hewitt's No. 5 Rooke, is rigging up. Total depth of old hole 2,400 feet. Houston Gulf Gas-Moody's No. 1 Wilson Heard is drilling deeper after testing salt water at 1,920 feet.

Nueces County Gas Field

W. L. Pearson's No. 4 Dunn, 300 feet of Bay is setting 6⅝-inch casing at 2,300 feet; No. 2 Meaney, 300 feet from south line of tract has derrick up; No. 2 Weil, west of Corpus Christi is shut down at 2,360 feet.

MEXICAN FIELDS

(Continued from Page 66)

the Caracol sector, its No. H-22 and H-29 are dry at 2,670 and 2,870 feet, respectively. In the Limon hacienda, Cia. Pet. Franco Espanola (Marland) finished Nos. 92 and 97 for dusters at 2,400 and 2,500 feet, respectively. Up in the Cacalilao sector, Mexican Sinclair finished its No. 217, Lot 2, for a duster at 1,974 feet; and Transcontinental Petroleum Co. did the same with its No. 71 Paciencia at 2,130 feet.

Mexican Sinclair's No. 159, Lot 3, Cacalilao, is also dry at 1,836 feet. La Corona Petroleum Co.'s No. 197, Lot 1 Cacalilao, drilled into salt water at 2,031 feet. Corona has also abandoned its No. 82 Manuel at 4,182 feet, Tamasopa, for something over 2,000 feet. This test is located in the heart of the old Panuco Field and was sent to the depth in question in the hopes of developing a deep reservoir in the Tamasopa, or else penetrating it. The abandonment of the test is the answer. Nothing was developed.

In the south fields, Mexican Eagle Oil Co.'s No. 34 Laguna de Tamiahua, one of a series of tests drilled in the hopes of catching the San Diego structure out in the lake, has been abandoned for a dry hole at 3,206 feet. Millan and others' No. 4, Lot 191 Amatlan, drilled into salt water at 2,165 feet.

Field Operations

Rains, high water in the Tamesi and Panuco rivers and the usual cussedness of the resultant bad roads, continues to keep operations under a slow bell. A number of drilling rigs are completely shut down owing to high water. Actual operations in the northern fields follow: Drillers Percentage Asso.'s No. 2 E. Maguabes, Panuco, has a showing of oil in gray lime at 2,500 feet. Mexican Sinclair Petroleum Corp.'s No. 156, Lot 3, Cacalilao, is in gray lime at 1,140 feet; No. 158 is in the same formation at 1,620 feet; No. 160 is fishing a bit in gray lime at 1,455 feet. Cia. Pet. Wilham Neinau, No. 57 Salinas, is in brown lime at 2,100 feet. Transcontinental Petroleum Co.'s No. 223, Lot 4, is in shale at 125 feet. Beveridge & Halliday's No. 3 Salinas are fishing at 1,660 feet. Cosmos Oil Co.'s Nos. 2 and 5, Lot 1 Cacalilao, are cementing 8-inch at 1,104 and 1,105 feet, respectively. Globe Petroleum Co.'s No. 2, Lot 76 Quebrache, is fishing for casing in shale, at 1,888 feet. Kern Mex Oil Fields, Ltd., No. 57 Salinas is in gray lime at 1,615 feet; its No. 60 is in pink shale at 625 feet.

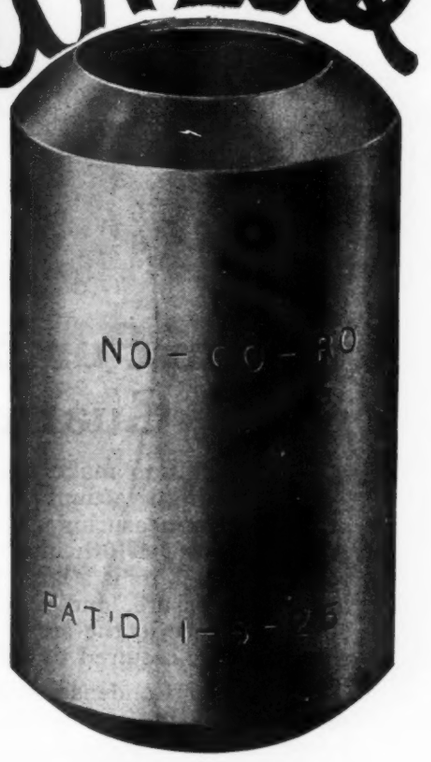
In the Ebano sector, Mexican Petroleum Co.'s No. 139 La Dicha is fishing in lime at 2,535 feet; its No. 141, same, is swabbing at 2,240 feet, the hole being full of oil.

Down in the Caracol sector, Mexican Petroleum's No. H-14 is in gray lime at 2,170 feet; No. H-21 is fishing at 2,176 feet; No. H-24 is in gray lime at 2,555 feet; and it is rigging three other tests. In the Salinas it is moving in on two new Shepard locations. National Lines' No. 68 Conteca is in gray clay at 1,482 feet; its Nos. 70 and 75 are in gray lime at 1,880 feet and 1,965 feet, respectively, and it has a derrick up for No. 74. On the Tamesi, its No. 120 is in gray lime at 1,050 feet. National Oil Co.'s No. 14, Lot 75, Quebrache, south of Topila, is reported in gray shale at 2,500 feet. Rich Mex Oil Co.'s No. 15, Lot 29, Altamira, has cemented 8-inch in gray lime at 1,025 feet; its No. 9, Lot D, Corcovado, is in gray lime at 1,875 feet. The Texas Company's No. 5, Lot 24, Paciencia de Aguacate, is in shell at 1,600 feet. Territorial Petroleum Co.'s No. 13 Salinas is in shale around 1,000 feet.

South Fields

In the south fields, Cortez Oil Corp.'s No. 14 Aguada is reported around 1,000 feet in shale. Mexican Eagle Oil Co.'s No. 19 San Geronimo is in shells at 1,920 feet; its No. 21 is in shale at 1,-

...here precision prevails



One of the Chief Reasons for the Almost Unbelievable Records the DROP & Seat is Making

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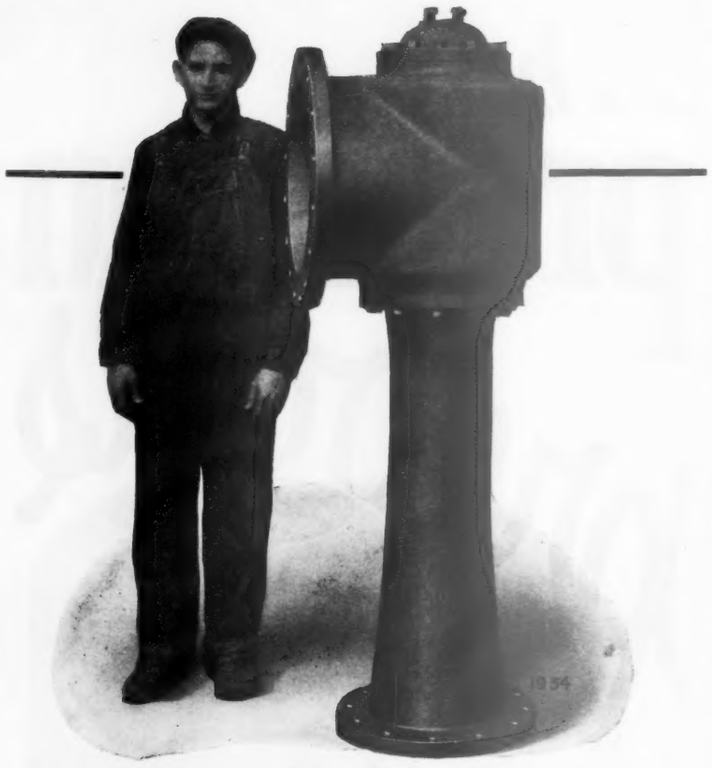

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300 feet, and, well south of the Tuxpam River, its No. 4 Mecatepec is in gray shale at 1,100 feet. Norris and others' No. 2, Lot 141, Amatlan, is in lime at 2,200 feet. Mordelo Vincent's No. 9, Lot 8, Tepetate, is in gray lime at something over 1,800 feet.

SOUTHWEST WILDCATS

(Continued from Page 57)

The first was taken by Louis Huebner of La Grange and the other by Henry Russek of Schulenberg.

The territory through Lavaca, Fayette, Colorado, DeWitt Counties is beginning to attract a little more attention on the part of major as well as independent operators. Not until the last year or so did it ever get much attention at all. Roxana and Magnolia among the majors seem to be giving it the most attention. Extending the area on to the northeast it, of course, runs into Washington County and Austin County and takes in the Bellville district where Humble some weeks ago got a gas well on acreage belonging to Harry Pennington and the Benham district in Washington where there is a salt dome and two or three completed small oil wells.

Duval County

National Oil Co.'s No. 1 Ball, Survey 16, at 450 feet to north and 150 feet to east line, has derrick up and moving in machinery. Humble-Reiter-Foster's No. 6 Kohler, Survey 400, located 60 feet to west and 660 feet to south lines, is preparing to test sand at 2,325-36 feet.

Hidalgo County

Queen City Oil & Gas Co.'s No. 1 Adams, Lot 1, Block 82, is drilling at 1,775 feet.

Jim Hogg County

William F. Morgan, Inc.'s No. 1 Las Animas, Block 28, Share 1, Las Animas Grant, 150 feet to SE cor., is location. Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east and 440 feet to north lines, has resumed drilling at 1,471 feet. Harry Hamilton and others' No. 1 Holbien, Block 44, located 158 feet to south and 363 feet to west line, is drilling at 2,220 feet.

Starr County

Ramsey & Maxey's No. 1, Survey 301, located 150 feet to northwest and 2,400 feet to west lines, is moving on. Commonwealth Oil Co.'s No. 1 Garcia, Survey 538, located 2,722 feet to south and 2,102 feet to west lines, is standing at 1,218 feet. Milham Corp.'s No. 2 Salinas, Porcion 111, located 11,360 varas to west and 800 varas to north lines at 4,385 feet was tested after blowing in and made salt water, and is being drilled deeper.

Webb County

Rio Grande Oil Co.'s No. 1 Urbahn, Santo Tomas Grant, 10,000 feet to south and 20,000 feet to east lines, is drilling at 2,100 feet. O. W. Killam's No. 2 Billings, SE NW Section 712, located 450 feet to NW cor., is drilling at 1,300 feet. Tubbs & Wright's No. 1 Reiser, Survey 1,617, Block 14, is drilling.

Zapata County

H. H. Galbraith's No. 1 Hirsch, Survey 595, location in NE cor. Buffalo-Erie's No. 1 Burtrand, Survey 627, located 3,239 feet to northeast and 500 feet to northwest lines, is drilling at 500 feet. E. K. Bateman's No. 2 Vela, Block 4, located 675 feet to northwest and 417 feet to northeast lines, is drilling at 2,400 feet. Roxana Petroleum Corp.'s No. 1 E. Lopez, Survey 288, at 150 feet to northwest and northeast lines, is testing at 1,946-49 feet. J. H. Winch's No. 2 Bustamante, Block 2, Share 11, at 2,400 feet west of No. 1, is drilling at 1,432 feet.

Bexar County

Allen Burnam's No. 1 Ward, southwest of Martinez, 600 feet to north and 2,400 feet to west lines of tract, is ready to spud in. A. R. Beall's No. 1-A Ackerman, Survey 133½, is on lime rock at 723 feet after setting casing at 663 feet.

Blanco County

Miller Creek Leasing Corp.'s No. 1 Glasscock, Survey 50, located 150 feet CEL, is location.

Bee County

Red Ant Oil & Gas Co.'s No. 1 Perry & Chestnut, B. Q. Hadley Survey, 1,400 feet to east line of survey, is shut down to clear titles after spudding in. D. Hewitt's No. 1 G. A. Ray, 1½ miles west of Pettus, is drilling at 1,100 feet. Nichols & White's No. 1 Hicks, Block 19, NW cor., is shut down at 1,408 feet.

Caldwell County

Bruner-Ritchie's No. 1 W. F. Davis, standing at 2,557 feet. Calco Petroleum Co.'s No. 1 Thomas, swabbing oil; No. 2 Thomas, located 600 feet southwest of No. 1, at 1,451 feet, is waiting on fuel oil to set casing. Detex Oil Co.'s No. 1 Hardeman, 4 miles north of Luling, at 2,987 feet, claims to be in base of Edwards. Sutton & Smith's No. 1 Carter, G. Hindes Survey, 150 feet CWL, is dry at 2,597 feet and may drill deeper; No. 2 Carter, G. Hindes Survey, 300 feet east of No. 2, is location; No. 1 J. L. New, James Hindes Survey, 150 feet to west and 600 feet to south lines, is drilling at 1,550 feet and claims to have showing of oil better than rainbows. The Texas Company's No. 1 Beatty, N. Kelly Survey, 500 feet to southeast and 150 feet to southwest lines of farm, is drilling at 1,000 feet.

DeWitt County

Hogue and associates have made location for test, west of Williams & Gates' No. 1 Gohmert in the Brooks League. J. W. Allen's No. 1 Roeder is location 12 miles west of Yorktown. Collette Oil Co.'s No. 1 Boldt, James Lasater Survey, 3,129 feet to east and 800 feet to south lines, is rigging up. Empire Southern Oil Co.'s No. 2 Smith, located three-quarters of a mile west of No. 1, is drilling at 2,350 feet. Williams & Gates' No. 1 Oscar Gohmert, G. W. Brooks League, 175 feet to north and 300 feet to east lines, has all title matters adjusted and ready to resume drilling. McNeil & Matthews' No. 1 Kaiser, A. Dillard Survey, 1,508 feet to NW cor., is shut down at 2,600 feet.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, at 700 feet to north line and 2,000 feet to east line, is drilling at 3,026 feet.

Frio County

P. A. Neilan's No. 2 Blackaller, James Gouley Survey, is skidding derrick from No. 1.

Fayette County

La Fayette Oil Co.'s No. 1 Marquardt, J. R. Phillips Survey, 976 feet to northwest and 400 feet to southwest lines, has been abandoned dry below 3,000 feet. Magnolia Petroleum Co.'s No. 1 Fordtran, J. R. Jones Survey, 200 feet to northeast and 1,050 feet to west lines, at 1,750 feet topped sand with no oil or gas.

Goliad County

Houston Oil Co.'s No. 1 J. F. Lott, G. Cortinas Survey, 2,000 feet to north and 300 feet to west lines, is rigging up.

Gonzales County

Bristol Oil & Gas Co.'s No. 2 Denman, A. Zumwalt Survey, is shut down at 807 feet. Joe Bruner's No. 1 Vaughan, Kent Survey, 200 feet to west and 300 feet to south lines, is shut down at 1,406 feet. Gonza Petroleum Co.'s No. 1 Elder is preparing to test at 1,636 feet; No. 2 Elder, Block 11, southwest of No. 1, is drilling at 1,250 feet; No. 1 Sinclair, 4 miles northeast of No. 2 Elder, is drilling at 1,200 feet. Martin Oil & Development Co.'s No. 1 Preston, near Cheapside, has set casing at 1,570 feet, 1 foot on rock, and will make test.

Guadalupe County

F. A. Lain's No. 1 Weinert, W. K. Estell Survey, 150 feet CNL, is standing at 3,002 feet; may drill deeper. H. H. Temple's No. 1 McAllister, E. Kellett Survey, 450 feet to northeast and 1,420 feet to northwest lines, is shut down at 1,940 feet for titles.

Hays County

J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, is drilling at 1,700 feet.

Karnes County

Earl B. Reynolds' No. 2 Butler, Block 43, 1,000 feet south of No. 1, is working on test, total depth 1,947 feet.

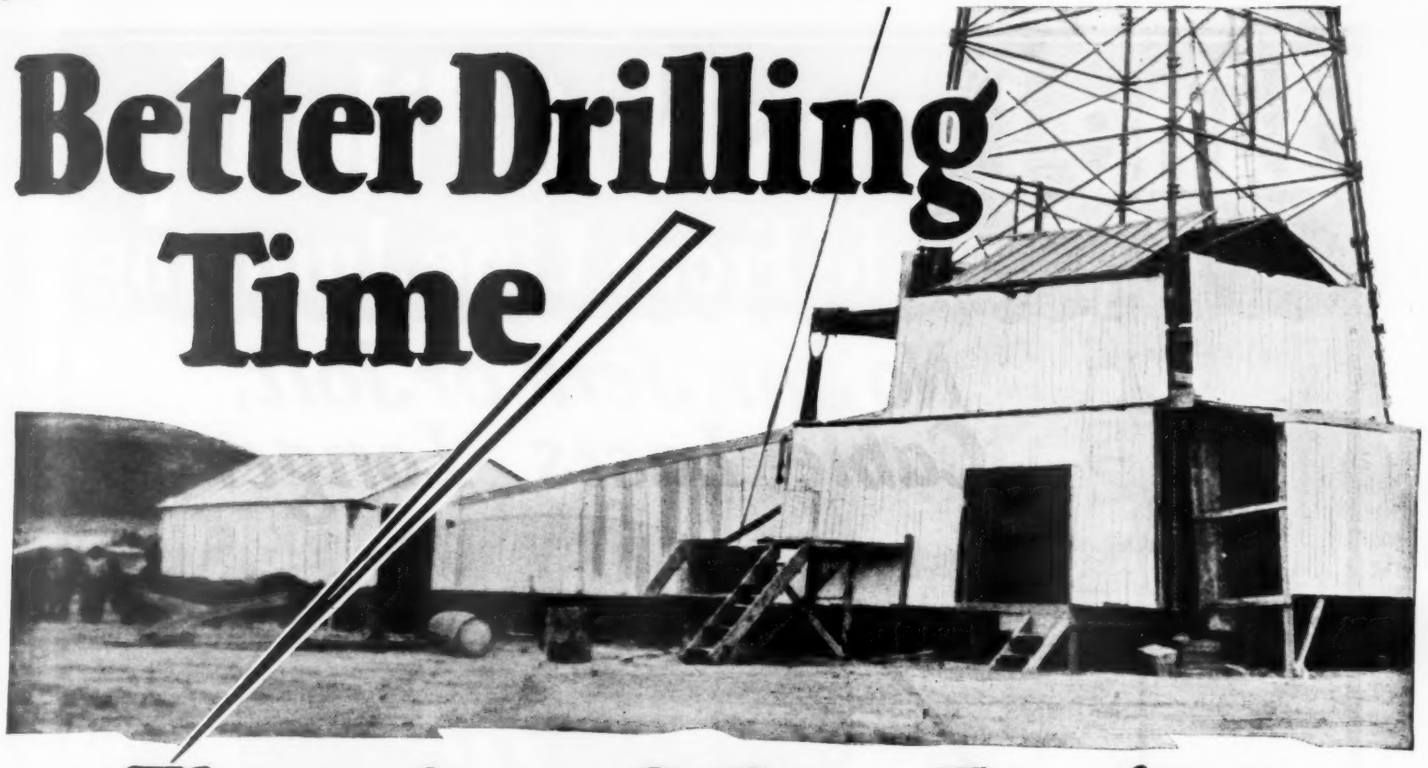
Kerr County

Walker-Van Duyn's No. 1 Leigh, Survey 38, located 500 feet north of river and 150 feet south of railroad, is drilling again at 2,405 feet.

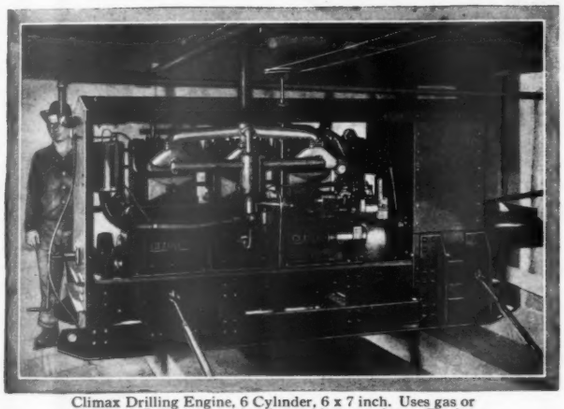
Kinney County

W. A. Stephens and others' No. 1 Jim

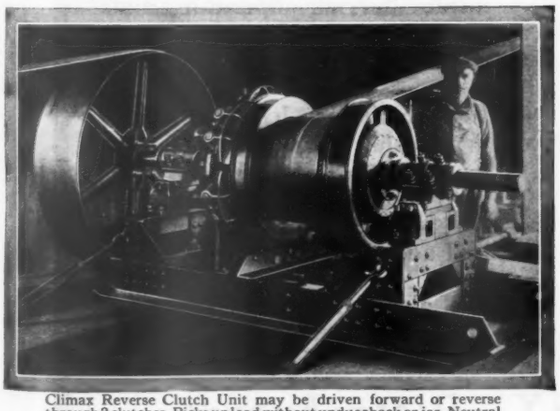
Better Drilling Time



—Than Any Other Engine



Climax Drilling Engine, 6 Cylinder, 6 x 7 inch. Uses gas or gasoline. Fully equipped, telegraphic control, etc. Engine mounted on structural steel skid frame. Weight 5400 lbs.



Climax Reverse Clutch Unit may be driven forward or reverse through 2 clutches. Picks up load without undue shock or jar. Neutral brake holds load stationary. Clutch and brake operated by one lever, with extension running to derrick floor. Weight 4,650 lbs.

Climax Drilling Power is constantly setting up new drilling records. F. H. Scott, Producer of oil and gas, 516-517 Dan Waggoner Bldg., Fort Worth, Texas, while drilling for Marland Oil Co. of Texas, writes:

"It is with pleasure that I write you this letter advising you that our Climax Drilling Engine purchased from you this last summer, has given us more than excellent satisfaction. We have drilled a number of wells with this Engine and have made better drilling time than with any other Engine that we have working at this time.

"We drilled one of our recent wells to a depth of 2265 feet in approximately 20 days. We set three strings of casing and pulled two. Your Engine is the nearest to steam of anything that we have found to date, and with the low cost of fuel consumption and its excellent service, we wish to state that we are more than pleased to be the owner of a Climax Engine.

"We are anticipating equipping other strings with Climax Engines in the near future."

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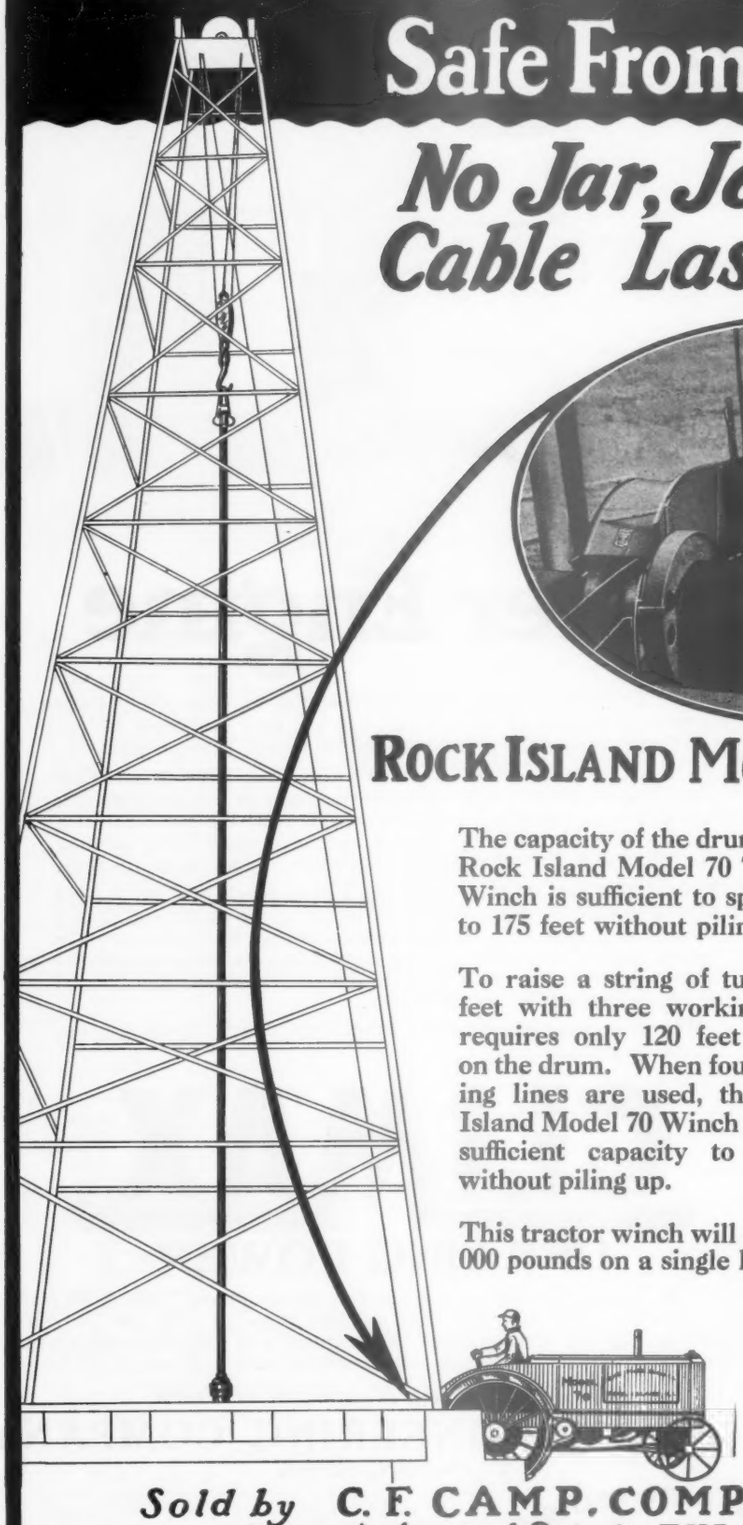

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To raise a string of tubing 40 feet with three working lines requires only 120 feet wound on the drum. When four working lines are used, the Rock Island Model 70 Winch still has sufficient capacity to handle without piling up.

This tractor winch will pull 10,000 pounds on a single line.

It will pull the rods and tubing in any oil well, pull them slowly, stop at any point desired and then go on. It is equipped with roller bearing friction clutch. Speed can be increased as load decreases.

Drum and working lines are inside derrick—operator and control mechanism outside—complete safety for operator.

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ROCK ISLAND PLOW CO. *ROCK ISLAND ILLINOIS*

Clamp, Survey 346, at 5,362 feet to west and 5,674 feet to south lines, is drilling at 900 feet with new crew. Havelin Oil Co.'s No. 1 Weatherby, Section 21, Block 5, is shut down at 4,330 feet.

Lavaca County

M. L. Benedum is moving in machinery for test near Ezzell, due south of Hallettsville.

Lee County

Glass Brothers and associates' No. 1 Henderson, 2 miles southeast Hicks, has been spudded in. M. O. Ricketts and others' No. 1 Sanders, Joseph Maxmillian League, 250 feet to SE cor., is standing at 800 feet.

Live Oak County

Delta Oil Co., Inc.'s No. 1 B. McNeil, Jane Curry Survey, 4,000 feet to NE cor., is shut down at 530 feet. Houston Oil Co.'s No. 18 Cartwright, Colchado Survey, 2,404 feet northeast of No. 5, is drilling. R. P. Lightfoot's No. 1 Thomas, Survey 963, Block 19, west central, at 1,316 feet tested sand showing salt water and little gas. Simmons Oil Co.'s No. 4 Sartain, Simms tract, is shut down at 2,076 feet in water sand for repairs. J. W. Walton's No. 1 Roberts, west of Three Rivers, at 1,860 feet tested salt water and is pulling casing to drill deeper.

Medina County

California-Medina's No. 1 Rothe, drilling at approximately 3,300 feet. Johnson's No. 1 Mumme, Survey 100, standing at 1,100 feet with rig moved off. Medina Oil Co.'s No. 1 Taylor, Survey 135, rebuilt derrick pulled in at 1,000 feet. R. P. O'Brien's No. 1 Nixon, Survey 531, is standing at 1,007 feet. Cecil Switzer's No. 1 Zerr, Survey 459, is drilling at 3,300 feet. J. A. Swayze's No. 1 Oeffingers, Survey 129, Block 22, is shut down at 300 feet.

Maverick County

Johnstone & Houts No. 1 Whipff, 9 miles from Eagle Pass, is shut down at 1,220 feet. Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center, is having casing trouble at 1,320 feet. Rycade Oil Co.'s No. 1 Chittim, Block 7, Section 129, is completing test at 5,602 feet; No. 2 Chittim is location in Section 158, 3 miles south and 1 mile east of No. 1; No. 2 Sullivan is drilling at 4,100 feet.

Milam County

Groneman Brothers' No. 1 King, 4 miles southeast of Rockdale, is drilling at 2,250 feet. W. A. Jones' No. 1 Smith, T. J. Chambers Survey, 150 feet to northeast and 810 feet to southeast lines, has oil showing and an effort is being made to plug off water; No. 1 Casparis, 1,000 feet southeast of No. 1 Smith, is drilling. Michalk & Clark's No. 1 Johnson, J. J. Acosta Survey, 450 feet to NE cor., is drilling at 900 feet. Yegua Oil Co.'s No. 1 Richards, J. H. Smith Survey, 6 miles southwest of Rockdale, is shut down at 2,290 feet due to water shortage.

McMullen County

Nelson & Woods' No. 1 Shiner, Survey 48, Block 74, located 1,000 varas to east and 350 varas to south lines, is drilling at 1,300 feet, with test taken over by C. H. Atherton. George Pickett's No. 1 Jacob, Survey 7, located 660 feet to CNL, is standing at 3,030 feet and may drill deeper. R. L. Taylor's No. 1 Shiner, Survey 14, at 150 feet to SW cor., is drilling at 1,900 feet.

San Patricio County

Mission Drilling Co.'s No. 1 Cage, Ross and others Survey, east central part of lease, is location. J. M. Davis' No. 1 Welhausen & Driscoll, exact center, Lot 8, Section 68, is moving in derrick material. F. S. Smiley's No. 1 Wilson is location one-quarter mile northwest of Angelita. W. L. Pearson's No. 1 Cage, Rachal Survey, 1,550 feet south of No. 5, is on sand at 2,360 feet. Huber & Crawford's No. 1 Mathis, Delgavo Survey, Block 17, located 300 feet to northwest and 2,500 feet to southwest lines, is shut down at 2,516 feet. John Sigmund's No. 7 McCampbell is fishing at 4,012 feet. George E. Smith is moving in machinery at White Point for test.

Val Verde County

Crusoe-Williams' No. 1 Holman, Section 5, Block N, is shut down at 2,930 feet. Douglas Oil Co.'s No. 1 Sellers, Section 82, Block A, straightening hole at 2,940 feet. East Del Rio Oil Co.'s No. 1 Russell, Section 183, shut down for repairs at 3,182 feet. Hiawatha Oil Co.'s No. 1 Sellers, Section 1,031, is setting casing at 2,875 feet. Independent Operator's No. 1 Whitehead, SE SE Section 30, Block 4, is repairing equipment. Magnolia Petroleum Co.'s No. 1 Whitehead. Survey 81, is drilling in red rock at 956 feet. O. O. Owens and others' No. 1 Mills, Section 145, at 2,527 feet, is to drill deeper, well testing small amount of gas at 2,521 feet.

Wilson County

Thomas and others' No. 1 Aug. Haese, Survey 124, at 300 feet to NE cor., drilling at 1,985 feet.

Zavala County

B. F. Thompson's No. 1 West, West ranch, northern part of county, drilling at 65 feet. J. G. Pundt's No. 1 West, Fuentes Survey, NW cor., east of Uvalde, is shut down at 210 feet.

FARMINGTON, N. MEX.

(Continued from Page 64)

36-18-9, a quarter of a mile north of the discovery well. It is also putting a rig on the ground to deepen the Hurst well which was drilled to a depth of 1,400 feet and abandoned before the Midwest discovery well was started. It is about a quarter of a mile from the discovery well and is south and west of it, being 1,500 feet west of the east line and 1,200 feet south of the north line of Section 1-17-9.

The Williams-Staplin interests, operating on the Hospah structure, Section 30-18-8, got a good showing of oil at approximately 1,838 feet but are troubled by water breaking in from above. An effort is being made to secure a water shut off when it is believed the well will show commercial production of a lighter oil than that found in the Midwest discovery well.

The Midwest Refining Co.'s strike in well No. 1 reported last week, while encouraging, is not believed to be of commercial importance and is so officially reported. It is not known whether the strike is in the Tocito or Torreon formation and is not a true sand but rather a sandy shale. They were drilling at a depth of 2,600 feet, on the way to the Dakotas at the last report.

Rattlesnake Structure

The Continental-Santa Fe Oil Co., operating on the Rattlesnake structure, Section 2-29-19, in well No. 17, are drilling after cementing the hole in an effort to sidetrack the bent casing. The hole is bottomed at 3,785 feet but the work in hand is a considerable distance above this.

The Union Oil & Mining Co., operating in the Blanco district, has reinstated its water system which was destroyed by the flood and has part of the casing for fishing on the ground. It expects to get ready for fishing for the last string of tools in another week.

The new steel rig for the Huntington Park Oil Corp., in the Blanco district, Section 29-30-9, has not yet completed rigging up but it is hoped to finish this week.

The Miley Oil Co., operating on the Red Mesa structure, Section 32-33-12, is drilling in shale below 3,400 feet, and is troubled with caving.

The location for the Hare-Miller Brothers' well in the Bloomfield district on the Hare tract, was made this week but the location has not been given out as they are having it checked up by others.

LA.-ARK. WILDCATS

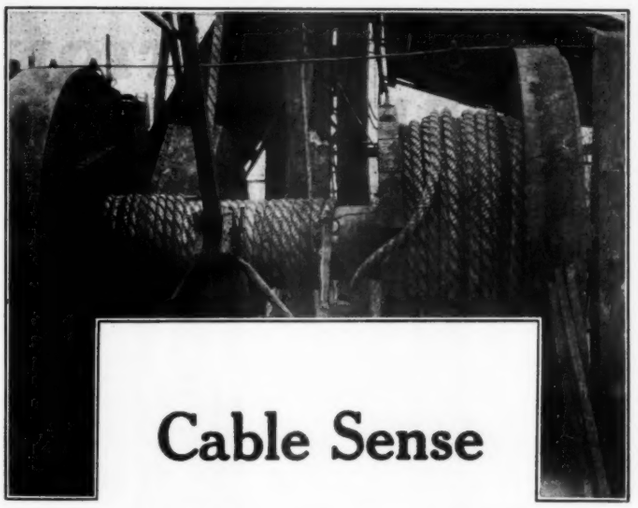
(Continued from Page 54)

lins have a rig up for No. 1 on the M. A. Farrington land, Section 22, and one for No. 1 on the J. S. Farrington place, Section 23. On the Matlock lease, Section 23, Woodley & Collins have lost the bit at 690 feet in their No. 1 test and have a fishing job. In Section 28-22-13, Walker and associates are drilling at 1,100 feet in No. 1 Antrim.

Sligo Syndicate's deep wildcat test, the No. 1 Jeter, Section 23-17-12, is being bailed for a test of four feet of sandy lime at a total depth of 4,154 feet.

Caldwell Parish

Grayson Oil Co.'s No. 1 Crockett, Sec-



Cable Sense

Cable sense is sometimes spelled "Cable cents," depending entirely upon your selection of the various brands.

You can buy a cheap cable which will no doubt look good—but when you get it on your rig and it gives you less service and more trouble, you will recognize this cheapness as false economy.

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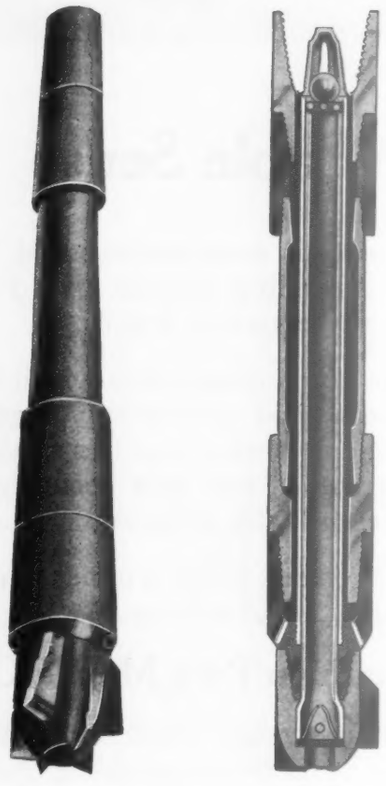

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Greater percentage of CORE RECOVERY.

Cutter heads will make more hole.

Pull split liners from inner barrel; lay aside one half and inspect each inch of core just as same was taken. The PERFECTION CORE BARREL wins by comparison.

Five sizes of Barrels.

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tion 6-12-4, is drilling shale at 2,650 feet.

Claiborne Parish

Magnolia Petroleum Co. is drilling lime at 3,804 feet in No. 1 on the Lee farm, Section 16-22-8. In Section 20-21-7, Rudeseale and associates are drilling shale and boulders at 2,290 feet in No. 1 Meadows.

DeSoto Parish

Clark & Melat have started a new test in Section 12-11-16, their No. 2 on the Payne lease. The 12-inch surface casing was set at 100 feet and the test now is drilling at 625 feet. Chal Daniels has a rig up for No. 1 on the Frost Johnson Lumber Co. land, Section 1. Dixie Oil Co.'s deep test, the No. 1 Jenkins, Section 9-12-11, is drilling at 5,363 feet. Hoosier Oil Co.'s No. 1 Berry, Section 5-11-11, has been completed making 2,000,000 feet of gas from a total depth of 2,731 feet. Reliance Drilling Co. has cemented 6⅝-inch casing at 2,785 feet in No. 1 Jones, Section 8-11-14. Total depth of the hole is 2,815 feet. Seip and associates' No. 1 Robertson, Section 18-10-12, Pleasant Hill district, is down 3,108 feet where 6⅝-inch casing has been cemented. The Texas Company's No. C-15 Sample, Section 36-13-12, is being cleaned out at 2,491 feet.

Franklin Parish

Barbour Oil Co. has encountered a sand at 2,793-96 feet in No. 1 Baker, Section 3-15-7e, and has cemented 6-inch casing at 2,780 feet.

Grant Parish

Holmes and associates are drilling at 450 feet in No. 2 fee, Section 17-9-1e. Swope and associates' No. 3 fee, Section 18-9-1e, tested salt water in a sand at 1,602-07 feet and is shut down waiting orders.

LaSalle Parish

Tunica Petroleum Co. is drilling at 630 feet in No. 2 L. & A. (formerly Lacroix), Section 8-7-2e.

Natchitoches Parish

Ohio Oil Co. is drilling at 2,164 feet in No. 2 L. & A., Section 26-13-6w.

Rapides Parish

Seip and associates are drilling at 1,200 feet in No. 1 Brewer & Neidsted, Section 38-3-2e. Ten-inch surface casing was set at 94 feet.

Red River Parish

Alden Oil Co.'s No. 1 Powell, Section 13-11-10, has been shut down after drilling to 2,838 feet. Hazlett & Simmons have cemented 6⅝-inch casing at 1,000 feet in No. 1 Neeley, Section 1-14-12. This is the test which had a gas blow out when making a Halliburton test at 1,712 feet.

Richland Parish

Gulf Refining Co. has a rig up for No. 1 on land held by the Ouachita National bank, Section 25-17-5e. This company's No. 2 Seibert, Section 11-16-5e, tested salt water at 2,450 feet, while the No. 1 Wayne, Section 36-17-5e, has been abandoned temporarily. The latter was drilled to a total depth of 3,052 feet but was cemented back to the 2,465-foot level. Ruston Drilling Co.'s No. 1 McCoy, Section 30-16-6e, is drilling at 900 feet. In Section 8, a rig is up for No. 2 McCoy.

Sabine Parish

Arkansas Fuel Oil Co. has completed No. 1 Horn, Section 33-10-12, Pleasant Hill Field, flowing 450 bbls. from a sand at 3,200-07 feet, and also No. 6 Logan, same section, flowing 395 bbls. from sand at 3,205-12 feet. This company's No. 8 Logan, this section, which was completed July 2, flowing 15 bbls. from sand at 3,228 feet, blew out at 3,285 feet making an estimated 6,000,000 feet of gas. The gas is being killed and the hole will be deepened. This company's No. 9 on this lease is being drilled in with cable tools at a depth of 3,235 feet. No. 10 Logan, Section 32-10-13, is drilling at 3,400 feet, and No. A-1 Logan, same section, is at 2,008 feet. Foster and associates are drilling shale at 2,100 feet in No. 1 Nabors, Section 30-10-12. Magnolia Petroleum Co. has completed No. 1 Hall, Section 33-10-12, flowing 462 bbls. from sand at 3,208-14 feet. This company's No. 1 Rembert, Section 32-10-12, is drilling lime rock at 2,928 feet. Morgan and associates have cemented 6-inch casing at 3,160 feet in No. 1 Reese, Section 5-9-12. A. H. Tarver has a derrick up for No. 1 on the Long Bell Lumber Co. land in Section 5-18-13. H. P. Tate is drilling at 2,130 feet in shale in No. 1 Cook Land Co., Section 23-10-11. Woodley Petroleum Co. has abandoned No. 1 Robinson, Section 33-10-12.

In the Swolle district, L. M. Emlet's No. 7-B Bowman, Section 14-7-14, is drilling chalk rock at 2,149 feet.

Webster Parish

Shreveport-El Dorado Pipe Line Co.'s No. 1 Gamble, Section 33-20-8, is drilling at 1,730 feet.

West Carroll Parish

Phillips Petroleum Co. has spudded in on its No. 1 on the W. R. Marion farm, Section 32-20-9e. Palmer Corp.'s No. 1 Pioneer Cooperage Co., Section 16-20-10e, still has not started drilling although the rig is up and ready.

Winn Parish

Ohio Oil Co. has a derrick up for No. 1 Rolen, Section 9-12-1w. H. M. Roark encountered rock salt at 448 feet in No. 2 Southern Minerals Co. and still is drilling in salt at 800 feet.

Arkansas

Union County

W. R. Keever's No. 2 Ezell, Section 12-17-15, has been cemented back to 2,860 feet, after being deepened from 2,880 feet, where it formerly had been abandoned, to 2,891 feet. However, on the same lease another location has been made for No. 3 Lion Oil Refining Co. is drilling in sand at 2,096 feet in No. 1 Craig, Section 4-18-18, western Union County. In Section 1-17-14, Magnolia Petroleum Co. has started a derrick for No. 1 Caroll. Mazda Oil Corp. has set 12½-inch surface casing at 100 feet in No. 1 Boyd, Section 9-17-15. Ohio Oil Co. is fishing for a sledge hammer dropped in the hole at No. 1 Pumphrey, Section 1-17-14. The hole is down 2,546 feet. Simms Oil Co. cored shale at 2,644 feet in No. 1 Ballard, Section 9-18-13, Lawson district. W. D. Wingfield and associates cored sandy shale at 2,930 feet in No. 1 Hadley, Section 2-18-13.

Ashley County

Glassell and associates have set 10-inch surface casing at 175 feet in No. 1 Keller, Section 10-19-5.

Calhoun County

Arkansas Natural Gas Co. is sidetracking a core barrel at 3,025 feet in No. 1 Stout, Section 2-13-14.

Clark County

Whelen Oil Co. has a rig up to drill its third well on the Burrows lease, Section 35-10-20.

Grant County

Jones & Watkins have resumed drilling in No. 1 Meek, Section 5-4-11, and are drilling ahead at 1,210 feet.

Lincoln County

Pine Prairie Oil & Gas Co. has resumed drilling in No. 1 Carter, Section 33-10-6. The hole is down 1,910 feet.

Miller County

Lenz and associates have abandoned No. 2 Dale, Section 23-15-26, after drilling to a total depth of 3,055 feet and encountering salt water.

GULF COAST FIELDS

(Continued from Page 59)

Louisiana, district, and one in Calcasieu Parish, Louisiana. In addition to these, the United North & South Oil Co., which opened the Luling Field, is drilling two very deep holes there in an effort to find pay at the low horizon. Its No. 1 Kelly is nearing 6,700 feet and No. 2 Tiller is around 6,420 feet. Outside of the Coastal pools proper, the Roxana Petroleum Corp. has two excedingly deep wildcat, or rather semiwildcat tests, skirting the Clemens Dome in Brazoria County. No. 2-A Pabst is around 5,835 feet and No. 4 Clemens below 5,100 feet. Off the Fanette Dome over in Jefferson County, southwest from Beaumont, the Gulf Production Co.'s No. 3 Bordages is drilling slowly ahead around 5,910 feet in sticky shale. A dozen or more wells are drilling within the limits of the pools and outside at depths varying from 4,400 to 4,900 feet.

MISCELLANEOUS

Brazoria County

Allen Dome: Roxana Petroleum Corp.'s No. 4 Allen is at 4,100 feet, and No. 1 Bernard River, which promised to be a producer, is cutting liner to deepen from 5,141 feet. No. 1 Randon is rigged and

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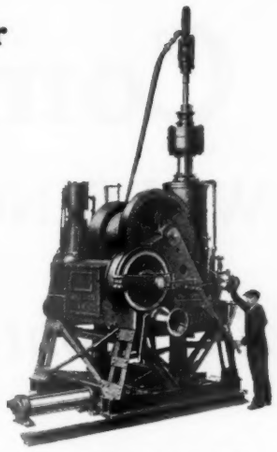
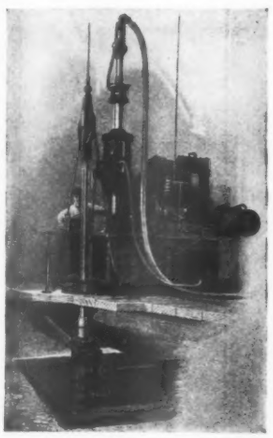


"FK" Drill for deep tests. This drill has taken core from below 6000 feet.



"P-2" Drill equipped with pressure control apparatus. This drill recently brought in the only successfully completed well in the Turner Valley Field, Alberta, Canada, where gas pressure exceeds 2500 lbs. to the square inch.

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Deep tests are made with the "P-2" and "FK" drills. The "P-2" will work effectively at 4000 feet, and the "FK" has taken core at 6000.

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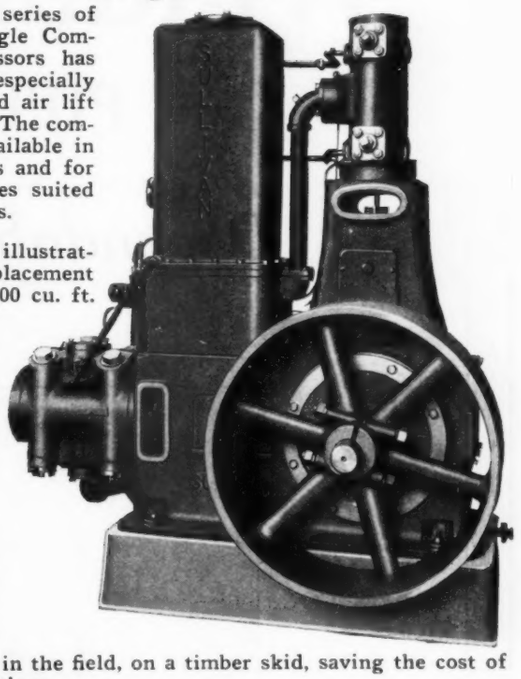
Angle Compound Compressors for gas lift

A new special series of Sullivan Angle Compound Compressors has been designed especially for gas lift, and air lift pumping of oil. The compressors are available in a range of sizes and for various pressures suited to oil field needs.



The compressor illustrated has a displacement capacity of 14,000 cu. ft. per hr., and is good for 750 lbs. pressure. This machine is only 6 ft. 10 in. long, 3 ft. 10 in. wide, and 6 ft. 8 in. high.

Angle Compound Compressors are noted for freedom from vibration and can be operated in the field, on a timber skid, saving the cost of concrete foundations.

Write for Catalog 1583-G.

Portable Compressors and Tools

SULLIVAN PORTABLE AIR COMPRESSORS ARE built in 110, 220 and 310-ft. capacities, for running your hoists, riveters, rock drills, clay diggers and other tools. They are mounted on steel wheels, rubber-tired trailer trucks, skids, or your own truck.

Drive is by the popular Buda gasoline engine, equipped with Bosch magneto and Zenith carburetor to make starting easy.

Sullivan Rotary Rock Drills, Concrete Breakers, and Clay Spaders are also available.

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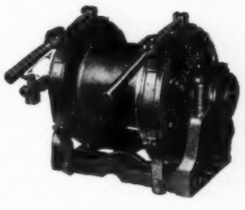

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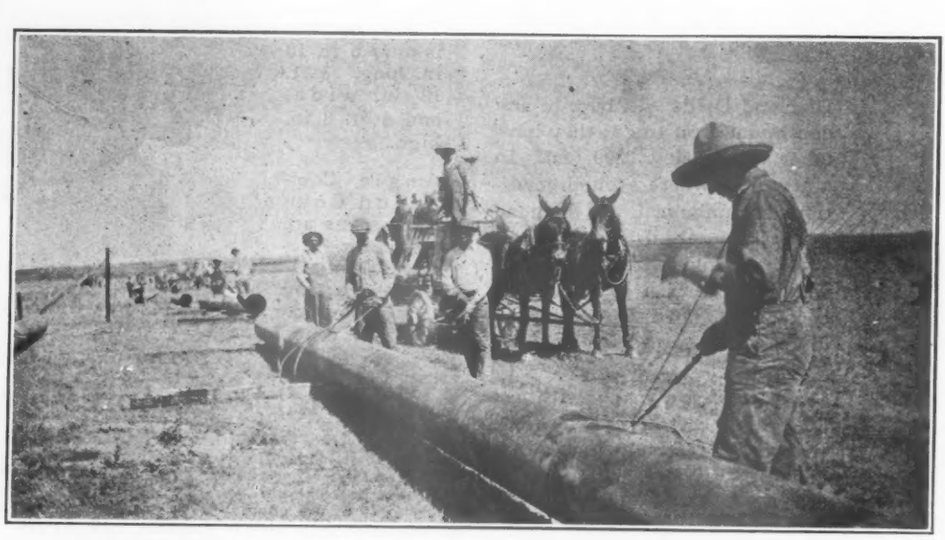

The above picture was taken on a recent job done for the Lone Star Gas Company. This is 160 miles of 18 inch welded line finished by Weldaline Company, July 17th, 1927. Running from Wichita Falls, Texas, to Shamrock, Texas.

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T. R. JONES,
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waiting on orders. Stratton Ridge: Associated Oil Co.'s No. 1 Seaburn is fishing at 4,082 feet. Gulf Production Co.'s No. 2 Perry on the south flank is drilling at 3,435 feet. The Danciger Oil Co. has a location for No. 1 Bartlett, 3 miles west of the West Columbia Pool.

Austin County

Raccoon Bend district: Humble Oil & Refining Co. and Valley Oil Co.'s joint No. 1 Woodley is drilling around 806 feet and No. 1 Deitrick is at 1,014 feet.

Fort Bend County

The Gulf Production Co. has cut down its operations around the Long Point Dome to one rig, drilling No. 5 Beard at 3,418 feet. This dome, like Boling and some others, has developed into a sulphur proposition and will be developed by one of the sulphur companies operating in the Gulf region.

Matagorda County

Hawkinsville Dome: Gulf Production Co.'s No. 3 Sanborn is drilling at 3,906 feet. The Matagorda County Development Co.'s No. 1 Hawkins, near Bay City, is idle at 1,260 feet. The Danciger Oil Co. has a location for No. 1 Bowie at Cedar Lane.

Jefferson County

Big Hill Dome: Houston Oil Co.'s No. 2 Fitzhugh is drilling at 3,475 feet. The Beaumont Prospecting Co. is testing No. 1 Terrell, 3 miles northwest of Beaumont, at 1,440 feet.

Harris County

Hockley Dome: Humble Oil & Refining Co.'s No. 1 Warren is drilling about 3,730 feet. The Juniata Oil Co.'s No. 1 Kutsman, 3 miles north of Cypress, is idle at 1,175 feet, as is P. S. Griffith's No. 2 fee, 12 miles north of Houston, at 3,515 feet.

Montgomery County

Beard and others' No. 1 fee, 15 miles east of Conroe, is drilling around 1,100 feet. Brain and others' No. 1 Fitch is sidetracking around 1,560 feet. It is located 3 miles east of Spring.

Lavaca County

Benedum & Trees, of Pittsburgh, Pa., and Claude Smith's joint No. 1 Russek, 18 miles south of Hallettsville, is rigging.

Trinity County

Head and Thompson's No. 1, 5 miles northwest of Trinity, is shut down at 1,000 feet. The test 12 miles north of Trinity is drilling at 2,715 feet.

Houston County

The proposed deep test of The Texas Company, south of Lovelady, is drilling around 2,415 feet.

Orange County

The Yount Lee Oil Co. has acquired a tract of 2,200 acres in the low lands section of Orange County, southwest of the city of Orange. The purchase price is said to be $58,000, and an eighth overriding royalty.

Brazos County

Rio Bravo Oil Co.'s No. 1 Vick, southwest of Bryan, is drilling around 1,400 feet.

Shelby County

W. M. Sebastain's No. 1 Pickering is drilling below 2,280 feet.

SOUTH LOUISIANA

St. Martin Parish

Rycade Petroleum Corp. is preparing to resume drilling No. 1 Atchafalaya, near the mouth of the Atchafalaya River, shut down at 3,790 feet on account of the recent floods. The company abandoned No. 1 Hooks on Bayou Chene at 2,782 feet.

Cameron Parish

Sweet Lake Pool: The Pure Oil Co.'s No. 4 Sweet Lake is drilling at 4,785 feet, and No. 5 at 4,510 feet, showing some oil in a sand. Hackberry Dome: Yount Lee Oil Co.'s No. 4 Black Lake is to be deepened from 4,895 feet, where it showed salt water. The Calcasieu Oil Co.'s No. 1 Hackberry is around 3,340 feet. The Border Research Co.'s No. 1, in Sabine Lake, cored a salt water sand at 3,330 feet. Same company's No. 1, in Mallard Bay, is idle at 3,157 feet.

Calcasieu Parish

Sulphur Dome: Doctor Hintzse's No. 1 Beckenstien is idle at 4,260 feet, as is the Union Sulphur Co.'s No. 720 fee at 4,390 feet. The Border Research Co.'s No. 1, in Calcasieu Lake, is drilling below 5,200 feet.

Iberia Parish

Eagle Point Dome: Gulf Refining Co.'s No. 2-Z and Calcasieu Oil Co.'s No. 1 Schwing are both idle. The Border Research Corp.'s No. 1, in Vermillion Bay, is idle at 2,785 feet.

LaFourche Parish

Gulf Refining Co.'s No. 1 Stark-Brown has started drilling.

Ascension Parish

Sorrento Dome: Gulf Refining Co.'s No. 2 United Lands is around 1,000 feet.

St. Mary's Parish

Louisiana Exploration Co. set surface casing in No. 1 West Cote Blanche at 997 feet. The Border Research Corp.'s No. 1, in Grand Lake, is shut down at 4,520 feet.

The Border Research Corp. is composed of E. F. Simms, of Houston and New York associates, and was organized for the purpose of drilling tests on more than 1,000,000 acres of swamp lands and in shallow lakes in southern Louisiana.

CANADIAN FIELDS

(Continued from Page 61)

the shallow pay is stated to be as light in color as kerosene, and can be used instead of gasoline to run a car.

The field is rather isolated and difficult of access. The Canadian road route is via Corbin in the Fernie district and down the Flathead River to the north of Sage Creek, at which point the road connects with a well-constructed road running north into Canada from Belton, Mont. The Montana road can be traveled by automobile. The Canadian road is restricted to horse-drawn vehicles owing to lack of bridges on the five river crossings between Corbin and Sage Creek. The motor trip by Messrs. Lester and Ramsey was made in 10 days, an average of 248 miles a day; with no tire trouble or repairs required during the entire journey.

To Start More Tests

The Glacier Oil Co. is planning to start No. 2 test as soon as the results of No. 1 are definitely determined. British Columbia Petroleum, Ltd., has a test one-half mile southeast of Glacier's No. 1 already spudded in.

In southern Alberta, developments at Devonish Petroleums' No. 1, LSD 5, Section 27-5-14w4, are held up pending arrangements for the handling of the production. With storage tanks all full no further swabbing has been done. It is expected that as soon as definite marketing arrangements are completed the well will be put on the pump. A potential pumping production of 500 bbls. a day is claimed. It is reported that a Vancouver, B. C. syndicate has secured acreage in the Skiff area and will drill a test this summer. Three additional tests are likely to be drilled by other companies on the Devenish holdings, two in the Skiff Field and a third in the Verdigris Coulee area.

In the Foremost gas field, Canadian Western Natural Gas Co.'s No. 8, LSD 12, Section 5-6-10w4, is pulling casing. The test got the top of the sand at 2,280 feet and the drillers were getting ready to cement before drilling into the sand when the bailer jammed in the last joint of the casing. The entire string of 2,280 feet will be pulled to get out the bailer, and then reset and cemented before the well can be drilled in.

W. Fortune, drilling on the Purple Springs townsite, southern Alberta, for the Eureka Municipality, has encountered a heavy flow of dry gas, apparently in fair commercial quantities.

On the Montana side, the Big Six Oil Co. of Saskatoon, Sask., is getting ready to drill No. 2 test on the Zachor farm in east Kevin-Sunburst. The company is also planning to drill a test this summer near Kenaston, Saskatchewan.

In Kent County, Ontario, the Vacuum Gas & Oil Co. and allied interests are continued development work in Camden township, north of Thamesville, where a shallow oil production has been secured in a number of wells in the Onondaga limestone. It is stated that the Vacuum and allied companies now have 10 producing wells. The wells usually start

STATEMENT OF CONDITION

OF

The Shawnee National Bank

SHAWNEE, OKLA.

As made to the Comptroller of the Currency
at the close of business

THURSDAY, JUNE 30, 1927

RESOURCES

Loans and Discounts		$1,223,993.83
Real Estate, Furniture and Fixtures		122,317.33
Federal Reserve Bank Stock		6,000.00
Liberty Bonds, State, Municipal Bonds, Warrants and Commercial Paper purchased	$2,105,279.61	
Cash in Vault, U. S. Treasury and in Other Banks	951,451.69	3,056,731.30
		$4,409,042.46

LIABILITIES

Capital Stock	$ 150,000.00
Surplus and Undivided Profits	102,960.38
Circulation	49,500.00
DEPOSITS	4,106,582.08
	$4,409,042.46

The above statement is correct.

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with a good flush production, and eventually settle into fair pumpers. The field was opened by Vacuum's No. 1, which claimed a flush production over 100 bbls. a day. Eagle Oil & Gas Co.'s No. 1 on the J. A. Young lease, completed not long ago, is reported to have started at 30 bbls. a day. The Ajax Oil & Gas Co. of Toronto has secured additional acreage along the northernly extension of the field and has let a contract to W. J. Hussey of Petrolia to drill on this acreage. The first well is located on the Jesse Crowell lease, offsetting Vacuum No. 1. The Hussey rig is being moved to location and the well should be brought in before August 1.

LOUISIANA-ARKANSAS

(Continued from Page 54)

it is drilling in lime. This company's No. 2 Bryson, Section 8, is down 938 feet where 10¾-inch casing has been cemented. In Section 28-18-16, Magnolia Petroleum Co. has a rig up for No. 1 Furch. The Industrial Oil & Gas Co., formerly known as the Marshall Natural Gas Co., is drilling in lime at 2,613 feet in No. 1 Sharp, Section 22-18-16.

Considerably to the north of the Greenwood Field and south of the main Caddo Field, Askew and associates got a dry hole at 2,803 feet in No. 1 Elliott, Section 12-19-16, and have abandoned it. In Section 27-20-15, Falcon Drilling Co. still is fishing in No. 1 Schmidt. Magnolia Petroleum Co.'s No. 2 Caddo, Section 8, has a hole full of salt water from a total depth of 2,910 feet and has shut down operations. Simplex Oil Co.'s No. 3 Thomas, Section 15, is shut down waiting on a standard pumping rig. This test has an oil sand at a total depth of 2,387 feet.

The Texas Company's No. 4 Hutchinson, Section 9-15-12, is drilling chalk rock at 1,500 feet. Tubbs and associates have a rig up for No. 1 Hines, Section 9-14-16. Woodley Petroleum Co. is drilling the plug cemented at 840 feet in No. B-1 Knight, Section 3-15-12.

LaSalle Parish

Hope Oil & Gas Co. is rigging up for No. 4 Urania, Section 19-10-2e, Urania Field. Sackrider and associates are setting 6-inch casing with a packer and perforated nipples to test sand at 1,496-1,502 feet in No. 1 State, Section 26-10-1e. Wingfield and associates are rigging up for No. 2 Gibson, Section 2-9-1e.

Monroe District

Natural Gas Products Co. is drilling shale at 2,429 feet in No. 20 Crossett, Section 21-23-7e, Morehouse Parish. W. C. Feazell is rigging up to drill the second hole for No. 1 Faulk, Section 15-20-4e, the first hole having bridged over when down 400 feet. The Texas Company has a rig up for No. 1 Sidney, Section 22-20-6e.

In Ouachita Parish, J. S. Gould has a rig up for No. 1 Grayling, Section 11-15-2e. Jordon Drilling Co.'s No. 2 Fudican, Section 25-18-4e, tested salt water at 2,313 feet but is being drilled deeper with the bit down 2,450 feet in shale. Ladell Properties, Inc., is drilling in gumbo at 2,005 feet in No. 42 fee, Section 31-20-5e.

National Gas Products Co.'s No. 2 Peak, Section 12-20-3e, Union Parish, is drilling gumbo at 2,072 feet. A derrick is up for No. 3 Peak, Section 5-20-4e. In Section 19, Southern Carbon Co. is drilling 2,000 feet in No. 1 Gulley.

Webster Parish

Magnolia Petroleum Co. has a derrick up for No. 2 Branton, Section 6-22-10. This company's No. 3 Cox, Section 23-21-10, deep test in the Cotton Valley Field, is drilling in lime at 3,552 feet. In Section 21, this field, Magnolia Petroleum Co. has a 50-bbl. well in No. 2 Marshall, pumping from sand at 2,544-47 feet. No. 3, this lease, is drilling at 1,500 feet. In Section 22, Ohio Oil Co.'s deep test, No. 4 Bank of Cotton Valley, is down 4,400 feet. Woodley Petroleum Co. is drilling at 3,920 feet in No. B-1 Cox, Section 23.

Magnolia Petroleum Co.'s No. 1 O'Bier, Section 32-23-9, Haynesville Field, is drilling at 2,060 feet.

Arkansas

Union County

Grimes & Jones have cemented 6⅝-inch casing at 2,222 feet in No. 1 Hill, Section 7-18-14, East El Dorado Field. In the Norphlet area of Smackover, Gulf Refining Co.'s No. 11 on the Berry lease, Section 6-16-15, is drilling at 2,418 feet. Hollifield and associates have gone into their No. 2 Murphy, Section 9-16-15, which was completed in April pumping 45 bbls. from a total depth of 2,757 feet, and have pulled the 5 3/16-inch casing, plugged back to 2,386 feet, perforated the 6⅝-inch casing from 2,376 to 2,380 feet, and now are bailing the test which has 1,000 feet of fluid in the hole. No. 3 is being reamed to the bottom at 2,392 feet. E. M. Jones is drilling at 640 feet in No. 2 Alphin, Section 4-16-15. In No. 2, this lease, the 6⅝-inch casing has been cemented at 2,352 feet. This operator also has cemented 6⅝-inch casing at 2,523 feet in his No. 10 on the Murphy lease, Section 17-16-15. Lion Oil & Refining Co. has a derrick started for No. 6 Hays, Section 4-16-15. Magnolia Petroleum Co.'s No. 3 Murphy, Section 8-16-15, is coring at 2,025 feet after testing dry at 2,009 feet. This company's No. 6 Wilson, Section 17, tested salt water after shooting the casing at 2,760 feet and has been plugged back to the 2,500-foot level. This test originally was drilled to a total depth of 3,006 feet. Natural Gas & Fuel Corp. is drilling at 938 feet in No. C-4 Lawton, Section 10. Ohio Oil Co. has pulled the 4¾-inch casing in No. 5 Murphy, Section 9, which has been shut down waiting orders. Southern Crude Oil Purchasing Co. is arranging to deepen No. B-7 Lyell, Section 3. This test was completed a year and a half ago blowing with gas about 400 bbls. of oil and salt water from a depth of 2,360 feet. This company's No. A-5 Wells, Section 15, is being cleaned out. The hole is down 2,704 feet. Unity Petroleum Co. has cemented 6⅝-inch casing at 1,945 feet in No. 15 Roper, Section 3-16-15.

In the Louann district of Smackover, J. J. O'Brien is bailing No. 1 Saxon, Section 16-16-16, to make a test of a broken formation at 2,628-58 feet.

Ouachita County

Also in the Louann district but on the Ouachita County side, F. A. Book's No. 3 Johnette, Section 33-15-16, tested dry at 2,263 feet but is being bailed at 2,267 feet for a test of another two feet of sand.

In the Norphlet district, Marine Oil Co. is drilling at 600 feet in No. 13 Snyder, Section 34-15-15. Phillips Petroleum Co.'s No. 15 Joyce, Section 33, has been shut down waiting on cable tools. Sunny Jim Oil Co.'s No. 12 Berry, this section, is pumping 220 bbls., 6 per cent salt water, from a depth of 2,366 feet. It was completed pumping 385 bbls.. This company's No. 15 on this lease is drilling at 1,150 feet. The Texas Company also has a new well in No. 1 Spahr, Section 35-15-16, which is pumping 30 bbls., 10 per cent salt water, from a sand at 2,022 feet. Unity Petroleum Co.'s No. 8-A Umstead, Section 33-15-15, is shut down waiting orders after testing dry at 2,389 feet.

In the Stephens district, Brewer and associates have a rig up for No. 1 Curry, Section 32-15-19. Magnolia Petroleum Co. has drill stem stuck in No. 1 Morgan, Section 7-15-19, with the hole down 3,030 feet.

Nevada County

Autrey Oil Co.'s No. A-1 Hagnie, Section 6-14-20, has eight feet of sand at a total depth of 1,169 feet and is waiting on a standard pumping rig. J. J. O'Brien has cemented 6-inch casing at 1,156 feet in No. 1 Martin, same section. This operator's No. 4 Moss, Section 1-14-21, has been completed pumping 250 bbls. from sand at 1,145-49 feet.

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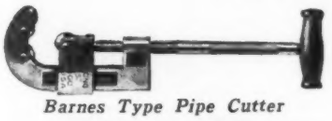

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Fig. 24

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Fig. 23

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FOR SALE—1,900 acres oil leases near Heritage and Red Boiling Springs, NE cor. Macon County; NW cor. Clay County, Tennessee; 25 cents per acre. E. C. Silvers, Leesburg, Ind.

FOR SALE—Sections 22, 23 and 24, Twp. 24, Range 35, Lea County, New Mexico. Federal permit. I reserve 7½% royalty on preferred section and 2½% on balance. Make offer. C. B. Shoemaker, Box 14, Glendora, Calif.

20-ACRE oil and gas lease, Section 7, Block 26, Winkler County, Texas. Make me an offer. J. Schoenborn, 5849 North Washtenaw Ave., Chicago, Ill.

LEASE LAND, sell royalties; Howard, Glasscock, Andrews, Martin, Terrell and Pecos Counties. One dollar an acre up. Joe Cunningham, Big Springs, Tex.

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BREWSTER COUNTY
FIVE-YEAR PAID UP OIL AND GAS LEASES
CLOSE-IN TO DRILLING WELL
I am drilling at 360 feet about 10 miles southwest of Alpine, Brewster County, on geology approved by I. J. Broman. I offer some choice five-year paid up oil and gas leases close to my well, or spreads at a low price. Write for full particulars immediately. Location looks similar to Yates Pool—right in the basin with plenty of outcroppings that can be worked geologically. Invest from $50 to $5,000 at special low price.
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OIL LEASES, Winkler Co., close in, 500 acres $75 acre; 40 acres, $250 acre. Box 653, Kansas City, Mo.

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Can furnish practically proven leases in Artesia Field, Eddy County. Also other tracts in Eddy, Chaves and Lea Counties. Particulars on request.
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LEASES around the V. T. Bolin well in Howard's Draw, south central Crockett County, Texas, in direct trend from Yates Field across river in Pecos County. Well fully financed and now setting 10-inch casing at 2,110 feet; contract depth 3,500 feet. Write for maps, prices, etc. V. T. Bolin, 510 Floyd Holmes Bldg., Fort Worth, Tex.

LEASES and half royalties, Caddo, Blaine and other counties. Write for complete list. A. E. Baldwin, Anadarko, Okla.

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20 ACRES for sale, oil and gas rights to go with land; 5-room house; oil lease cut March, 1928; a good buy for some one. Located in Seminole Co. The W½ of SW¼ of SW¼ Sec. 35-11-7, $125 per acre. A. J. Montgomery, RR 2, Seminole, Okla.

FOR SALE 40 acres controlling 300 acres water shed, on gas mains, Kansas Highway No. 33, two miles from Ottawa. Land being leased near me for oil and gas. Good location for industrial plant. Address T. W. Wadsworth, Ottawa, Kans.

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Leases and Royalties
W. S. PATTERSON
Pecos, Texas

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OIL LEASES and royalties, Ector, Crane, Pecos, Reeves, Ward, Upton and Winkler Counties; buy or sell. C. H. C. Anderson, 712 Linz Bldg., Dallas, Tex.

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LEASES; drilling blocks; fee lands; anywhere; confidential reports; information. Box 620, Fort Stockton, Tex.

ELEVEN Sec. Ranch, 6 Sec. owned land, 5 Sec. lease land; good grass land and some farming land, located in Howard County, four miles S. Coahoma; ever lasting water; good fence; good ranch improvements. This land is leased to large oil company, and has oil production on three sides of it. No dry holes between it and oil. Price for the 6 Sec. $12.50 per acre. Write or see A. M. Sullivan, Coahoma, Texas.

ROYALTIES—PRODUCTION

ROYALTIES—$2 acre up; leases $1 acre up. Stevens County, Kansas.
MOREHEAD & MOREHEAD
Hugoton, Kansas.

J. F. MARION OIL COMPANY
Magnolia Building
Dallas, Texas
Buys and sells Texas Oil Leases and Royalties

NOTICE
Offering undeveloped and producing royalties, leases and drilling blocks, Brown (Fry Field area), Coleman, Callahan and Shackelford Counties, Texas.
All offerings submitted will be accompanied by geological information.
M. ELDER & COMPANY
Coleman Hotel Bldg., Coleman, Tex.

ROYALTY BUYERS—I own several pieces of royalty offsetting and near offsets to production in the Panhandle, mostly in Gray County. Will sell one of these for expense money. This is your chance to take advantage of the slump. Write or wire for particulars. W. H. Mahon, P. O. Box 528, Amarillo, Texas.

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Chicago Market Opens Week Quietly

Even Gasoline Reported in Fair Demand. Dealers Had Good Week-End, Except in Some Northern Tourist Areas

By J. B. Waldo

CHICAGO, July 25.—The market opened the week rather quietly on Monday, even gasoline being in fair demand. U. S. Motor gasoline is quoted at 7 cents over the week by all refiners and other sellers, but some buyers insist that they have been offered an eighth of a cent concession for immediate orders. Some gasoline was bought for July shipment at less than the recent market, and where there is some of this remaining efforts to move it before the end of the month may take the form of price concessions. There is only a little of this, but the fact that any is available is likely to be widely spread among buyers. Some refiners are also offering their special gasoline with a 400 endpoint at the 7-cent price.

The dealers in the vicinity of this city report that they had a good week-end business, but there is complaint from northern points of lack of tourish business, some dealers in that section stating that July has not been as good as June. The movement in the higher tests is not large and prices are rather easy in tone.

Kerosene is reported by several refiners to have moved better than they anticipated, and there was some demand today. Fuel oils of all kinds were quiet on Monday, with a routine business reported at recent prices. Standard Oil Co. of Ohio reduced kerosene 1 cent over that State on Saturday.

Standard Oil Co. of Indiana plans to advance its gasoline prices in Illinois 2 cents on August 1, when the Illinois tax law becomes effective. A party of directors and executives of the Standard Oil Co. of Indiana left for an inspection trip of western properties on Sunday morning, some of them going by airplane and others by train. Vice President Allan Jackson states that the use of the plane is in the interests of aviation, and will stimulate the building of airports, which are necessary to the larger use of airplanes. The first stop will be at Denver.

Gasoline Situation

Last week in the Chicago gasoline market was a continuance of conditions that had prevailed during several preceding weeks and the weeks immediately previous. In other words there was no change of any importance. Reports from dealers large and small indicate a continuance of the large consumption with every prospect favorable for its continuing on a large scale through to the end of August. Returned tourists report that the touring season is in full swing and that there were never more cars on the road than right now. In short the summer touring season is at its height or approaching that point for in all past seasons the distribution of gasoline has not been quite as large in July as in August. Yet the distributors are only buying in the spot market for a week at a time and the bulk of the spot business has been in one and two-car orders. Occasional sales are made of 5, 10 or 15 cars but these have been the exception.

The price of 7¼ cents has never been fully effective here. Right along last week there were complaints that business was being lost by concerns quoting that price to dealers who actually bought at less than 7¼ cents. Some bought as low as 6⅞ cents and many at 7 cents, a few paid 7⅛ cents. One large source of supply refused to advance its refinery prices to dealers above 7 cents claiming that it had previously been prompt to advance with the market and had lost business to other refiners who had sold at one-quarter of a cent less for weeks.

Other refiners instructed their sales force to meet competition holding for 7¼ cents as strongly as possible and not lose the business. The result of such sales tactics was to increase the quantity of gasoline of the U. S. Motor grade available at less than 7¼ cents which was the nominal refinery market and towards the close of the week refiners began to reduce their quotations. Some of them reduced their price to 7 cents; others sold at 7⅛ cents with no special announcement of the change.

Contract Movement

There was some little demand for the 56-58 450 endpoint but not a great deal. The bulk of the business was in the U. S. Motor grade and in this the movement was large although mostly on contracts with the spot sales disappointing. There were a few inquiries for large quantities. The Benzolene Motor Fuel Co., which supplies the Yellow Cab Co., made an inquiry for 150 cars of U. S. Motor gasoline but on inquiry stated that they had satisfied their needs for the present but might be in the market later again. They have a contract for a portion of their supplies. There were reports of a 50-car inquiry but it could not be traced. There were some sales between refiners but not for important quantities so far as could be learned here. The White Eagle Oil & Refining Co., has been quite a large buyer but is understood to have supplied its wants. There was a small demand only for the higher gravities with the exception of the 60-62—400 endpoint or with a somewhat higher endpoint which is being used in considerable quantities by dealers to compete with companies who sell this as their regular grade or where the state laws indicate this gravity. Some occasional cars of natural gasoline were ordered by jobbers usually in the A grade. There was a little more strength in this commodity.

August Buying

So far there has been little buying of gasoline for August by the marketers. A little has been bought at 6⅞ cents and some at 6¾ cents but the quantity is not great. Several refiners in this market from the Southwest have seemed anxious for orders over August and admitted that they had enough business for July on their books but very little for next month. In one case a refiner who was holding for 7 cents said when told that there was no chance of doing business at that price, said: "Well, if you have to pay 6⅞ cents give me a call first." The fact that some gasoline is available at 6¾ cents for August delivery may have been one factor in causing the refiners to reduce their price to the trade to 7 cents.

Kerosene More Active

Kerosene has been a little more active. Some of the refiners report that they have done more business than for several weeks and there has been some inquiry by refiners of other refiners. Some of this has been purchased at 3⅞ cents for resale but generally the market closed at 4 to 4⅛ cents with 42-44 gravity selling at 4½ cents.

Distillates Slow

Distillates continue to sell in a small way for immediate shipment. One large refiner's local office stated that they sold just a car a day and had done so for a couple of weeks. It had become so regular as to be noticeable and they expected that one car order and speculated on who the next customer would be to send them that business. There seems to be an inclination to wait awhile on the distillate business. Both buyers and sellers to a considerable number are waiting but at the same time some of the distributors have bought quietly as they have had the opportunity to purchase supplies of desirable oil at the present market. Some of the refiners who seem unable to make up their minds largely as to what price to charge for their product may find that a considerable quantity of distillate has been purchased and is in the distributors tanks or bought for early shipment. The larger distributors are soliciting their customers for contracts and in several instances good results are reported.

Gas Oil Firm

Gas oil continues firm. Oil men who have returned from the field report that there are large quantities in store but also say that the amount of the low cold test oils is proportionately less than it usually is owing to the limited use of the cracking stills. Straight run gas oil is firmly held by refiners some of whom still are holding supplies for the possible resumption of the operation of their cracking units. It is not impossible that a real shortage may develop in the zero gas oils in the opinion of some of the oil men. They all seem to think that if the conditions continue as at present gas oil is a good buy at the present market. The industrial demand is light right now and utility companies are buying lightly in the spot market. The market for the strightrun industrial oil is steady at 2¾ cents, the low refinery price being 2⅝ cents with a little of the 30-31 gravity has been bought at 2½ cents. For the zero oils 3 cents is about as low as that product can be had and for the straw oil some of the sellers are asking 3½ cents and others 3⅜ cents. All admit that it is scarce.

Fuel Oil in Rut

Fuel oil continues in about the same rut that it has been in for months. The low gravity oils are being more freely offered. Some of the refiners have considerable stocks on hand but they are asking the same prices as have ruled. The recent bids on the government dredging contract on inquiry from the Memphis office indicate a greater desire for this business at least. The Henry H. Cross Co., of this city was the successful bidder this time as at the previous opening of bids. The latest bid was $1.07½ at Smackover. Their previous contract was on the basis of $1.09 at Smackover.

The Skelly Oil Co. bid 85 cents at Eldorado, Kans., but the difference in freight made the bid of the Cross company the best according to the engineer in charge. The quantity required was 50,000 bbls. The only other bidders were the Northland Oil Co., of Chicago and Turner & Turner of Memphis. There is very little Smackover crude being sold to come this way and one of the largest producers of Smackover oil has made a price on its treated product of 22½ cents above the posted price of Smackover crude. This is a high price as it amounts to $1.22½

(Continued on Page 240)

EASTERN GASOLINE MARKET WEAK; RETAILERS ARE CUTTING PRICES

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, July 23.—The gasoline situation on the Atlantic Seaboard has turned weak during the past few days. Although no tank wagon market cuts were reported officially, many stations slashed retail prices, until the actual retail market appears to be lower than the quoted tank wagon market in many sections. For instance, the tank wagon price of gasoline in New York City and vicinity is supposed to be 19 cents a gallon. A price-cutting war is now in progress, however, with the result that gasoline can be obtained by motorists for 16 cents a gallon at many stations. Service station operatons have told the writer that they are paying 10½ cents a gallon for gasoline wholesale.

The gasoline market here is complicated somewhat by the fact that the large refiners distinguish between their own branded gasoline and so-called U. S. Motor gasoline. They deliver their branded material in tank wagons to service stations which sell the gasoline under their own brand names. They also sell U. S. Motor gasoline at refinery in tank car lots. The tank wagon price quoted by the Standard Oil Co. of New Jersey, for instance, is 16 cents a gallon. The same company is selling United States Motor gasoline in tank cars f.o.b. Bayonne, N. J., for 8¾ cents a gallon.

This so-called motor gasoline is handled in many instances by jobbers who have bulk stations and supply commercial customers, that is, owners of fleets of trucks or buses using large quantities. It is believed almost certain, however, that some of this gasoline if not a great deal, finds its way without the knowledge of refiners to the service stations to be resold. This can be done because of the wide difference between the tank car and tank wagon markets.

Among the leaders in the price cutting campaign in New York City is the Warner Quinlan Co., which, it is reported, claims that the sale of its product at service stations at 16 cents a gallon retail is bringing a profit. The company is understood to be bringing in tanker loads of gasoline at this port at low cost, and this economy is being passed on to the consumer.

Most leading refiners are willing to sell U. S. Motor gasoline in tank cars at 8¾ cents a gallon. The attempt to boost this price did not meet with success, and there seems to be no tendency at present to hold out for more than 8¾ cents. It is reported some sales of several tank cars each were made at 8⅝ cents.

Kerosene Weak

The kerosene market is largely going along with gasoline. Prices seem to be tending lower, but so far no actual reductions have been made. In districts where competition has been particularly keen no improvement can be seen. Kerosene is obtainable in tank cars at Bayonne for 7½ cents a gallon.

Gas and Fuel Oil

Gas oil is in supply here and can be had for 5¼ cents a gallon for large quantities. However, most refiners are still asking 5½ cents for single tank cars. New contracts with leading gas companies here were recently closed at the lowest levels in some years. As against a reported price of 5-5½ cents, refiners a few years ago were getting 7 cents a gallon for quantities of 100,000,000 gallons or more.

Diesel oil is active and prices hold steady at $2.20 a barrel. California receipts dominate this market at present. The same thing applies to bunker fuel oil. Due to lower freight rates, eastern refiners are taking full advantage of the California market. It is possible lower costs may soon be passed along to the consumer. California refiners are said to be selling at around 70 cents a barrel for quantities of 1,000,000 bbls. or more.

Lubricating Oil

The lubricating oil market in the Atlantic Seaboard territory has been com-

(Continued on Page 240)

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Seemingly without effort you speed along . . . when moving parts of your engine are properly lubricated with TAGOLENE. Power with ease! Plenty of power for the job! What a joyous feeling it is to step on the throttle and know that plenty of power awaits you . . . that GOOD LUBRICATION is helping you speed smoothly along.

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Rectification of Unstable Gasoline

Develop New Process to Save Light Ends by Blending With Naphtha in Blending Evaporator. Explain Results

By Paul Raigorodsky
Engineer, Newton Process Manufacturing Co.

The importance of decreasing gasoline plant losses without an additional large investment and increase of the cost of operation is attracting the attention of gasoline manufacturers.

While the stabilization of gasoline by either weathering or refrigeration attains the aim as far as stability is concerned, it does not accomplish the maximum result in decreasing the plant losses. Weathering and refrigeration processes deal exclusively with a certain given quality of gas or gasoline. The performance of these stabilizing processes depends upon the constituents of the gas or gasoline.

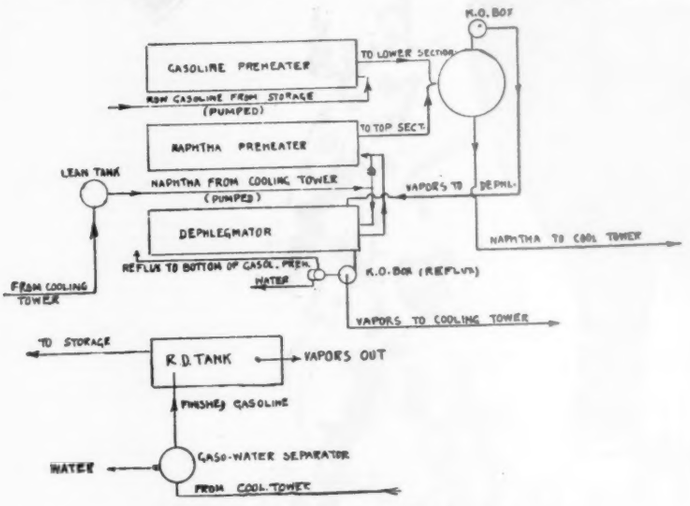


Figure 1—Flow sheet of blending evaporator.

In view of this, the manufacturer is continually seeking ways and means of producing stable gasoline, utilizing and retaining the maximum production.

The Newton Process Manufacturing Co. has recently developed a new process for the accomplishment of this desired saving. Installations have proven conclusively the advisability of blending the raw or unfinished product with a certain cut of naphtha for each particular case.

Experiments have proved that it does not matter how wild or light the product is, it can be rectified and the propane eliminated. If a given gasoline has an amount of butane, a certain low initial boiling point naphtha can be blended with it, absorbing most of the butane and recommending its series with series of heptane and octane of the naphtha, thus making the intermediate series resemble in structure and boiling point the series of pentane and hexane.

Experimental Results

These experiments were made on gasoline produced in the ordinary absorption and compression plants under the following conditions:

Compression Plants — Maximum compression pressure of not over 275 pounds.

Absorption Plants—Minimum temperature of absorption oil 70 degrees Fahrenheit. Rate of flow not to exceed 30 gallons of oil per gallon gasoline at 30 pounds pressure.

The flow sheet of actual installations is quite simple—Figure 1.

Flow Sheet

Raw gasoline is pumped into a preheater, heated by steam up to around 330 degrees Fahrenheit, then enters the second bottom compartment of the evaporator.

Naphtha enters the top compartment of the evaporator, being previously heated in a separate preheater to around 330 degrees Fahrenheit. Steam is admitted to the lower section of the evaporator at about 120 pounds. Live steam is admitted to the bottom compartment of the evaporator at about 15 pounds.

Vapors from the evaporator escape through a knockout box into a dephlegmator, being cooled there by naphtha which is bypassed into the dephlegmator on its way to the naphtha preheater from a cooling tower. Knockout returns enter middle section of evaporator.

Vapors and gasoline from dephlegmator cooled to around 210 degrees Fahrenheit enter another knockout box. The reflux from the knockout box is pumped into a storage tank or back into the gasoline preheater.

Naphtha is drawn from the bottom of the evaporator through a liquid level control into a lean oil tank, cooled to about 150 degrees Fahrenheit and is then pumped into the naphtha preheater.

A small amount of vapors escape from the rundown tank. The evaporator is a standard Newton still with few modifications. The rest of the equipment is of standard type.

Gasoline Specifications

In general, the average gasoline treated runs from 75 degrees to 95 degrees Baume gravity, with as low as 40 degrees Fahrenheit initial boiling point and recovery around 60 to 78 per cent, and is rectified into a product with initial around 70 degrees Fahrenheit—endpoint around 360 degrees-420 degrees Fahrenheit—recovery around 90 per cent and gravity 75 degrees-80 degrees Baume.

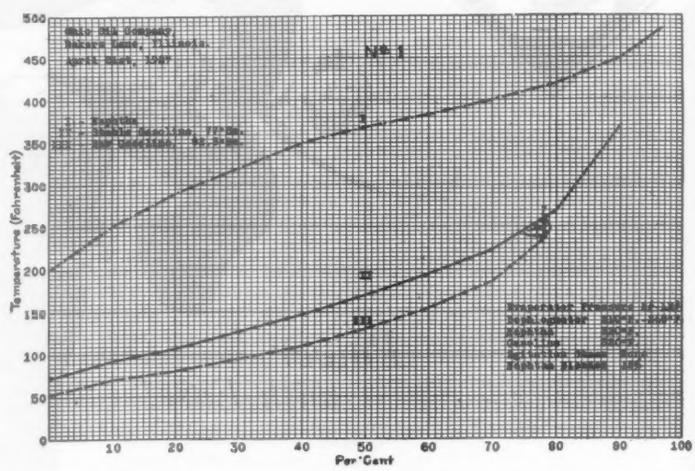
The rectifying process cuts the plant losses down from 20 or 30 per cent to 2½ to 8 per cent. One installation on a compression plant accomplished a saving of $5,000 a month.

The best possible results are obtained under the following conditions:

1. Pressure on dephlegmator is less than 10 pounds.

2. Temperature on dephlegmator is around 210 degrees-220 degrees Fahrenheit.

3. Temperature of naphtha entering evaporator, 330 degrees Fahrenheit.



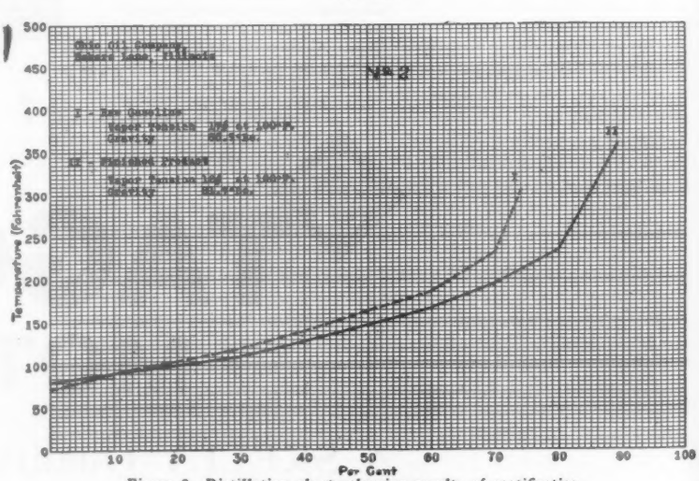


Figure 2—Distillation charts showing results of rectification.

4. Temperature of gasoline entering evaporator, 330 degrees Fahrenheit.

5. Amount of naphtha circulated is equal to daily production of gasoline.

6. Naphtha blended each day 7 to 8 per cent of the total gasoline production.

7. Temperature lean naphtha entering preheater, 150 degrees-170 degrees Fahrenheit.

8. The initial of the naphtha depends on the initial of the raw product. If the gravity of the gasoline treated is high and the initial low, the initial of the naphtha should also be low. Gasoline 95 degrees Baume—Initial naphtha 200 degrees Fahrenheit. Gasoline 75 degrees Baume—Initial naphtha 258 degrees Fahrenheit.

9. Distillate from dephlegmator is run into the gasoline preheater.

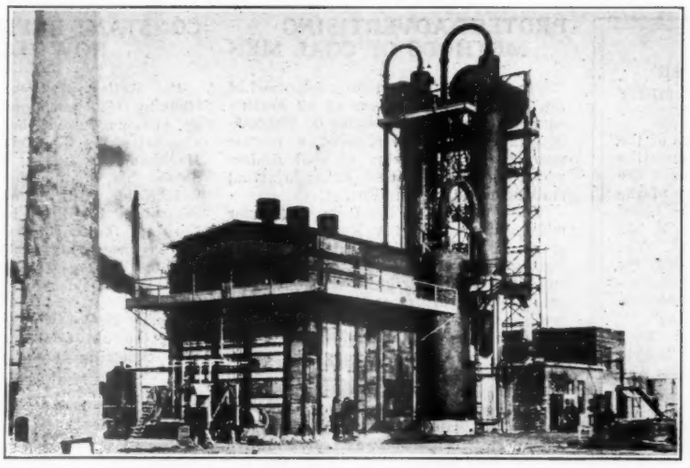
10. Agitation in still as low as possible, not over 15 pounds.

The blending plant operates at maxi-

(Continued on Page 240)

	Ohio Oil Co., Bakers Lane, Ill.	Ohio Oil Co., Bridgeport, Ill.	Vincennes Oil & Gas Co., Vincennes, Ind.
Cost	Approximately $10,000	Approximately $13,000	Approximately $7,000
Capacity	14,000 gallons in 24 hours	20,000 gallons in 24 hours	7,000 gallons in 24 hours
Apparatus	Two 60-inch evaporators Two 13-inch preheaters One 16-inch dephlegmator	Two 72-inch evaporators Two 13-inch preheaters One 22-inch dephlegmator	One 60-inch evaporator Two 13-inch preheaters One 16-inch dephlegmator
Running	Gasoline, 500 gallons per hour Naphtha, 460 gallons per hour	Gasoline, 1,200 gallons per hour Naphtha, 1,100 gallons per hour	Gasoline, 300 gallons per hour Naphtha, 300 gallons per hour
Naphtha	200 degrees-240 degrees initial 400 degrees endpoint 52.1 degrees Baume gravity	258 degrees initial 436 degrees endpoint Below 50 degrees Baume gravity	258 degrees initial 436 degrees endpoint Below 50 degrees Baume gravity
Raw Product	50 degrees initial 235 degrees endpoint 90.7 degrees Baume gravity Recovery, 78 per cent	63 degrees initial 360 degrees endpoint 76.8 degrees Baume gravity Recovery, 64 per cent	40 degrees initial 320 degrees endpoint 90 degrees-95 degrees Baume gravity Recovery, 59 per cent
Finished Product	72 degrees initial 368 degrees endpoint Recovery, 90 per cent-93 per cent Gravity, 77 degrees Baume	70 degrees initial *398 degrees endpoint Recovery, 88 per cent-90 per cent Gravity, 70 degrees Baume	68 degrees ini.ial *420 degrees endpoint Recovery, 85 per cent Gravity, 74.6 degrees Baume
Naphtha Blended	10 per cent	8 per cent	8-15 per cent
Total Loss	8½ per cent	7 per cent	3.5 per cent

Remarks—Losses estimated on raw gasoline from the time it is made up to the time of delivery at refinery and include: (1) Weathering (2) Outage (3) Pipe line (4) Storage (5) Rectifying (if any.) Previous losses have been ranging between 20 per cent-35 per cent of the total plant production. *The high endpoint was desired.



Complete Pipe Still Distillation Units

It is difficult for a refiner to find a more attractive and desirable investment in plant equipment than is afforded by the installation of a *complete pipe still distillation unit.*

A complete installation, however, consists of far more than merely a still. It is composed of a number of various units, all of which must be properly co-ordinated to operate with each other, and the correct design of each unit can be determined only when the entire installation is considered as a whole.

If you are interested in a pipe still distillation unit and desire to obtain from same the highest possible yield, the greatest flexibility, and the lowest operating cost, send us an analysis or sample of your crude and specify the products desired. We will, without obligation to you, submit our recommendations together with a definite lump sum proposal covering the entire installation.

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REFINING AND MARKETING

Disagreement as To Who Pays Gas Tax in Illinois

CHICAGO, July 23.—A petition for leave to file an injunction to prevent Governor Small and the state authorities from carrying out the provisions of the gasoline tax which goes into effect on August 1 has been filed in the District Court at Aurora, Ill., by the counsel for the Chicago Motor Club. The injunction is to prevent the state authorities from expending any part of the appropriation of $50,000 granted for the purpose of carrying out the law and also to stop the collection of the excise tax. It is alleged that the law is unjust, discriminatory and unconstitutional. The hearing has been set for July 28 and if the injunction is granted the effect will be to put a stop to the enforcement of the law. It was pointed out to the presiding judge that a similar petition had already been filed with the District Court at Springfield. The petition alleges that a part of the appropriation has already been withdrawn and expended for printing and and other preliminary expenses. Either party to the suit will have a right to appeal to the State Supreme Court and it will undoubtedly require a decision from that court to establish the legality of the act imposing the tax.

Who Pays the Tax

Quite a little stir has been caused among oil men in this city by recent notices from Director of Finance Bollinger. The first intimation that refiners and marketers without any stations of their own in the state might be called upon to pay the tax came with a notice from the state that they had been listed as distributors within the meaning of the law and notifying them of the necessity of securing a license to sell motor fuel within the state. The understanding generally in the trade was that the tax would be collected from the motorists by the bulk station owners who would account to the state finance department. Accordingly on receipt of the notices the concerns which sell in tank car lots and have no stations replied in substance that they were not distributors and supposed that that ended the matter.

They were indeed surprised when they received a second notice that they were distributors and quoting the law to that effect and notifying them to comply with the law by taking out a license as provided for all distributors.

The first section of the act defines the terms, motor fuel, distributor and motor vehicle, as follows:

"Section 1. For the purpose of this act,

" 'Motor fuel' means all volatile or inflammable liquids produced or compounded for, or which are available and practicable for operating motor vehicles. It does not include kerosene oil.

" 'Distributor' means a person who for sale or use in this state either imports into the state or produces, refines, compounds or manufactures in this state motor fuel.

" 'Motor vehicle' means motor vehicles as defined by the motor vehicle law."

Several of the companies have turned the correspondence over to their attorneys and are awaiting their decision. Some others will wait for the state to show its hand after August 1. At least one concern states that its present intention is to pay the tax and add 2 cents per gallon to the amount of the tax to its regular invoices to its customers within the state. It figures that by so doing it is entitled to the 3 per cent rebate allowed by the law. Some uniform action must be decided upon unless an endless controversy is to be raised. Some concerns state that they sell no gasoline in the state as their sales are all made f.o.b. Group 3.

Oil men do not believe that the State Legisuature by a few words of definition in an act changed established trade custom and understanding of well-known and commonly used trade terms. In the petroleum industry, according to the established usage, the term distributor has an exact meaning and is used without any qualifying prefix such as wholesale or tank car distributor means the actual seller of the product, in this case motor fuel to the consumer.

The gasoline tax is becoming entangled in the state politics. The county board of Cook County which is a little more than Chicago, has resolved to petition the Legislature for a repeal of the new tax on motor fuel. The next session of the legislature will be in 1929 after the next election. The president of the county board is an avowed and active candidate for the office of Governor of the state and is of the opposing political party to that of the present incumbent.

TO PUBLISH N. P. A. HISTORY AT SILVER ANNIVERSARY MEET

A history of the activities of the National Petroleum Association will be one of the features of the twenty-fifth annual meeting of the association to be held at the Hotel Traymore, Atlantic City, N. J., September 14, 15, and 16. The history is being written by Fayette B. Dow, general counsel of the association. It will be released during the Atlantic City meeting.

The National Petroleum Association which is composed largely of eastern refiners is generally considered the oldest active association of the petroleum industry. The history will cover the high points of its work starting 25 years ago. Many illustrations will be used.

Those expecting to attend the Silver Anniversary meeting are urged to make their reservations immediately. A three-day program "of live subjects" is being arranged, according to the committee in charge.

PANHANDLE MAY SECURE PART OF HELIUM PLANT

FORT WORTH, Tex., July 25.—Because a market has not been found to dispose of approximately 9,000,000 cubic feet of residue gas daily from the United States Government's helium plant here, a part of the plant may be moved elsewhere. Negotiations with various gas companies to take the residue gas have thus far fallen through. It has been suggested that a carbon black plant be erected near by to use the residue.

Panhandle has been suggested as the place to move a part of the Fort Worth plant equipment in an event a move is decided upon. Engineers headed by R. A. Cattel, Washington, D. C., chief engineer of the helium division of the Bureau of Mines, are in Panhandle on a tour of inspection.

The present supply of gas for the Fort Worth plant is coming from Petrolia. But that supply had to be increased and it was planned to pipe gas from the Nacona Field to Petrolia thence to Fort Worth. The appropriation was obtained for the building of the line but when the question arose of disposing of the residue an obstacle that has worried Fort Worth civic bodies for several months arose.

PROTEST ADVERTISING METHODS OF COAL MEN

The Oil Heating Institute, composed of the largest manufacturers of oil heating equipment, and representing a $40,000,000 industry, has registered a protest against the advertising of coal dealers which knocks oil heating, either in actual statements or by implication.

The protest is in the form of a letter addressed to the Better Business Bureau of the International Advertising Association, calling attention to "knocking copy" used by coal dealers in various cities, against oil heating, and asking the bureau to use its services toward eliminating this type of publicity.

While the "knocking copy" in advertising against oil heating has appeared in many places, the Oil Heating Institute has singled out some recent advertisements that appeared in the Hartford Times, Hartford, Conn., as representative of the kind of copy to which the Oil Heating Institute takes exception.

The Oil Heating Institute's letter, signed by Leod D. Becker, managing director, is in part as follows:

"I an sending two specimens of knocking copy run recently over the signature of local coal dealers in the Hartford Times. Some of this knocking goes to lengths that makes it vicious.

"Anything you may do to persuade the Hartford Times and the local dealers supporting this campaign to confine their sales effort to constructive merchandizing and the advantage of their fuel will be to the interests of better business.

"I, therefore, hope you will be able to persuade the Hartford dealers to abandon such copy and to show the local dealers the value of making known the advantages of their fuel rather than to imply inferiority of other heating equipment."

Mr. Becker listed the names of the 35 manufacturers composing the Oil Heating Institute.

VOTE ON STATION SITE RESCINDS PERMISSION

YANKTON, S. Dak., July 23.—By a vote of 522 to 463 the voters of Yankton, at a special election, rescinded a permit which had been granted by the city commissioners to The Texas Company to store gasoline and erect a gasoline filling station on a corner directly across from the Congregational Church. This is believed to be the first time in the State that a dispute of this kind has ever been submitted to the voters. The matter was referrel to the voters through action taken by officers of the church, who opposed the erection of a filling station in such close proximity to the church edifice.

The oil company, during the campaign, contended that all rules, regulations and permits required by the city commissioners had been legally and duly complied with by The Texas Company, and that if the action of the city commissioners in granting the permit were rescinded by the voters, as it was at the special election, "it would undoubtedly be necessary to have a special election for each similar permit issued in the future." The company further said it had purchased the ground in good faith "after complying with all the requirements of the governing body of the city."

CHANGE COMPANY NAME

The name of the Congress Oil Co. of New York has been changed to the Congress Petroleum Co., according to a company announcement. The company is incorporated under the laws of Delaware. The change in name does not involve any change in company ownership or officials.

CONSTANT REFINING NOW MALLOY & CO.

Pat Malloy, president of the Constant Refining Co., announced Saturday that he had purchased the interests of his associates, J. J. McGraw and J. H. Markham, Jr., in that company and had named his organization, Malloy & Co. Coincident with his obtaining complete control of the firm, its subsidiary, the Constant Tank Line Co. was dissolved and its properties, 1,061 tank cars, were sold to the General American Tank Car Co. The consideration amounted to $1,250,000.

Malloy & Co., which has been evolved from the old Constantin Refining Co., will engage in the producing branch of the industry only. The old Constantin refinery located at the West Tulsa bridge, was retained by McGraw and Markham, but will not be operated.

Properties of the new organization include 32,000 acres producing and undeveloped leases scattered throughout Oklahoma, Kansas and Arkansas. In the El Dorado, (Ark.) South Field, which the Constantin company discovered in 1919, this company has 25 producing wells and a daily crude oil output of 800 bbls. It owns 1,200 acres in and around this field. In Oklahoma it has under lease 1,600 acres of scattered leases and in Kansas 400 acres.

E. R. Kincade, secretary and treasurer of Malloy & Co., is the only other official in the organization. Kincaid joined the Constant Refining Co. in 1922 as assistant auditor, and has acted as auditor for all Constantin companies during their receivership. Upon the reorganization of the Constant Refining Co. he was made assistant secretary and general auditor.

GASOLINE STOCKS DECREASE IN JUNE

The following is the American Petroleum Institute's summary for the month of June of the increases and decreases in stocks at refineries covering approximately 86 per cent of the operating capacity east of California.

(Barrels of 42 gallons.)

	Increase	Decrease
Domestic crude oil	.....	*310,000
Foreign crude oil	65,000	.....
Gasoline	.....	3,315,000
Kerosene	.....	12,000
Gas and fuel oils	162,000	.....
Lubricating oil	118,000	.....
Miscellaneous	72,000	.....
Total	417,000	3,637,000
Deduct		417,000
Net decrease		3,220,000

Pipe line and tank farm gross domestic crude oil stocks east of California increased *8,917,000 bbls. in the month of June, according to returns compiled by the American Petroleum Institute from reports made to it by representative companies. The net change shown by the reporting companies accounts for the increases and decreases in general crude oil stocks, including crude oil in transit, but not producers' stocks.

EXHIBIT SPACE PLANS FOR WEST BADEN MEET

Exhibit space for the fall convention of the American Oil Men's Association which will be held at West Baden, Ind., November 2, 3 and 4, is now available at the association's headquarters according to an announcement by James A. Gilmore, secretary and manager. Seventy-five exhibit spaces have been made available on the exhibition floor of the West Baden Springs Hotel where the convention sessions are to be held.

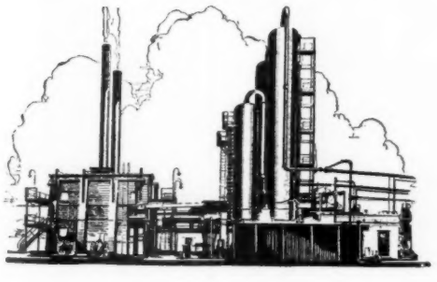
A large attendance of oil jobbers from all parts of the country are expected at the fall convention. The program for the convention will be announced in the early fall.

KELLOGG PIPE STILLS

ACTUAL THRUPUT
30% greater

Kellogg pipe stills are guaranteed for a specified rated capacity. They are designed, however, not only to produce this capacity, but also to have an adequate reserve for overloading.

At a certain Texas refinery, a Kellogg still was installed for handling 2500 bbls. of topped crude a day. In actual everyday operation, this plant is showing an average daily thruput of over 30% more capacity. And all the products are meeting specifications.



KELLOGG

CROSS CRACKING PLANTS—BUBBLE TOWERS—PIPE STILLS—HEAT EXCHANGERS—GRAY TREATING TOWERS—TREATING PLANTS

THE M. W. KELLOGG CO., 7 DEY STREET — NEW YORK

KANSAS CITY, MO., 700 BALTIMORE AVE. -:::- SAN FRANCISCO, CAL., 444 MARKET ST.
LOS ANGELES, CAL., 329 PETROLEUM SECURITIES BLDG.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	July 26		July 19		July 12	
OKLAHOMA (Group 3)—						
50-52 450 endpoint (Naphtha)	.06½	.06¾	.06½	.06¾	.06½	.06¾
56-58 450 endpoint	.06½	.06¾	.06½	.06¾	.06½	.06¾
58-60 450 endpoint	.06⅝	.06¾	.06⅝	.06¾	.06⅝	.06¾
58-60 437 endpoint (U. S. Motor)	.07		.07	.07¼	.07	
60-62 400 endpoint	.07½	.07¼		.07¼	.07½	.07¼
64-66 375 endpoint	.07¼	.07⅜	.07⅜	.07½	.07¼	.07½
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint	.06½	.06⅝	.06⅝	.06¾	.06⅝	.06¾
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.07	.07¼	.07	.07¼	.07	.07¼
NORTH TEXAS—						
56-58 437 endpoint	.06½	.06¾	.06½	.06¾	.06⅝	.06⅝
58-60 450 endpoint	.06½	.06⅝	.06½	.06⅝	.06⅜	.06½
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06⅝	.06¾
60-62 400 endpoint	.07	.07¼	.07		.06¾	.07
64-66 390 endpoint	.07⅛	.07¼	.07⅛		.07	.07⅛
64-66 375 endpoint		.07¼	.07⅛	.07¼	.07	.07⅛
68-70 360 endpoint	.07¼	.07½	.07¼	.07½	.07¼	
64-66 437 endpoint (blend)	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
NORTH LOUISIANA—						
56-58 437 endpoint (U. S. Motor)	.07¼		.07¼		.07¼	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07¼		.07¼		.07¼	
PENNSYLVANIA—						
52-54 Naphtha	.08	.08¾	.07¾	.08½	.07¾	.08½
54-56 Naphtha	.08½	.08¾	.08½	.08¾	.08½	.08¾
58-60 Gasoline	.08½	.09	.08⅝	.08⅞	.08⅝	.08⅞
60 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
62 Gasoline	.10	.10¼	.10	.10¼	.10	.10½
64 Gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09½	.10½	.09½	.10½	.09½	.10½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¾	.07	.06½	.06¾	.06½	
56-58 450 endpoint	.06¾		.06¾		.06⅝	.06¾
58-60 437 endpoint (U. S. Motor)	.07	.07⅛	.07	.07¼	.06⅞	.07
60-62 400 endpoint	.07¼	.07⅜	.07¼	.07½	.07½	
64-66 375 endpoint	.07½		.07½	.07¾	.07½	.07⅝
68-70 360 endpoint	.07¾		.07¾		.07¾	
64-66 437 endpoint (blend)	.06¾		.06¾	.07	.06¾	.07

NATURAL GASOLINE

	July 26		July 19		July 12	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05	.05⅛	.04⅞	.05	.04½	.04⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾	.05	.04½	.04⅝	.04⅝	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½		.04⅜		.04⅜	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04⅜		.04⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.04⅜	.04½	.04⅛	.04¼	.04¼	.04⅜
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05		.04¾	.04⅞	.04½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾	.05	.04½		.04⅞	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½	.04⅝	.04⅜		.04¼	.04⅜
Grade BB, 84-92, 375 e.p., rec. 85%	.04½	.04⅝	.04⅜		.04¼	.04⅜
Grade C, 80-90, 375 e.p., rec. 78%	.04⅜		.04⅛	.04¼	.04¼	
NORTH LOUISIANA—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05	.05¼	.04½	.04¾	.04½	.04¾
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅝	.04¾	.04½	.04¾	.04½	.04¾
Grade C, 80-90, 375 e.p., rec. 78%	.04½	.04⅝	.04⅜	.04⅝	.04⅜	.04⅝
CALIFORNIA—						
75-85, 370, 390 endpoint	.08	.09	.08	.09	.08	.09
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05	.05⅛		.05	.04½	.04¾
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾		.04½		.04½	.04¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½		.04⅜		.04⅜	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04⅜		.04⅜	.04½
Grade C, 80-90, 375 e.p., rec. 78%	.04⅜		.04⅛	.04¼	.04¼	.04⅜

BURNING OIL

	July 26		July 19		July 12	
KANSAS—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04	.04¼	.04	.04¼	.04	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04⅜	.04½	.04⅜	.04½
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¼	.04½	.04¼	.04½	.04½	.04¾
NORTH TEXAS—						
41-43 water white Kerosene	.03⅞	.04	.03⅞	.04	.03⅞	.04
40-42 water white Kerosene	.03¾	.03⅞	.03¾	.03⅞	.03¾	.03⅞
ARKANSAS—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
PENNSYLVANIA—						
43 Kerosene prime white	.05⅞	.06⅛	.05⅞	.06⅛	.06	.06¼
45 Kerosene water white	.06	.06¼	.06	.06¼	.06⅛	.06⅜
46 Kerosene water white	.06¼	.06½	.06¼	.06½	.06⅜	.06⅞
47 Kerosene water white	.06¾	.07	.07	.07¼	.07	.07¼
300 Mineral Seal	.07	.07¼	.07	.07¼	.07¼	.07½
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05¾	.06½	.05¾	.06½	.05¾	.06½
Engine distillate, 43-45 445 endpoint	.08		.08		.08	.08½
Engine distillate, 42-44 480 endpoint	.07¾	.08	.07¾	.08	.07¾	.08
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04	.04⅛	.03⅞	.04⅛	.04	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04½		.04½	

FUEL OILS

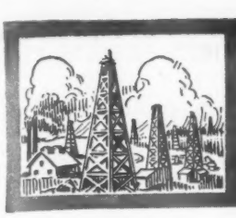
	July 26		July 19		July 12	
KANSAS—						
24-26 Fuel Oil	.90	.95	.90	.95	.90	.95
32-36 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02⅝	.02¾
38-40 Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.85	.90	.85	.90	.85	.90
18-22 Fuel Oil	.87½	.90	.90	.92½	.90	.92½
22-26 Fuel Oil	.90	.92½	.90	.92½	.90	.92½
24-26 Fuel Oil	.90	.92½	.92½	.95	.92½	.95
26-30 Fuel Oil	.95	.97½	.95	.97½	.95	.97½
28-30 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil (dark)	.02⅝		.02¾		.02¾	
32-36 Gas Oil (straw overhead)	.02⅝	.02¾	.02¾	.02⅞	.02¾	
36-38 Distillate	.03⅛		.03⅛		.03⅛	
38-40 Straw Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.80	.85	.85	.90	.87½	.90
32-36 Gas Oil (straw)	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	
NORTH LOUISIANA—						
18-20 Fuel Oil	1.12½	1.15	1.12½	1.15	1.12½	1.15
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03	.03¼
ARKANSAS—						
36-38 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
32-36 Gas Oil (straw)	.03¼	.03½	.03¼	.03½	.03¼	.03½
16-20 Refinery Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
GULF COAST (South Texas)—						
Gas Oil	.04½	.04¾	.04½	.04¾	.04½	.04¾
Fuel Oil	1.60	1.65	1.60	1.65	1.60	1.65
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅛	.04⅝	.04⅛	.04⅝	.04⅛	.04⅝
36-40 Fuel Oil	.04½	.05	.04⅜	.04⅞	.04⅜	.04⅞
CALIFORNIA—						
33-36 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
27-32 Distillate	.03¼	.03¾	.03¼	.03¾	.03¼	.03¾
*15-20 Fuel Oil, Bunkers (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots)	.71	.75	.71	.75	.71	.75
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.92½	.95	.92½	.95	.92½	.95
22-26 Fuel Oil (sellers' cars) Group 3	.90	.92½	.90	.92½	.90	.92½
18-22 (Group 3)	.90	.92½	.90	.92½	.87½	.90
16-20 Smackover	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil (zero)	.03⅛	.03¼	.03⅛	.03¼	.02⅞	.03⅛
32-36 Gas Oil (industrial)	.02¾	.03	.02¾	.03	.02⅝	.02⅞
36-38 Distillate	.03¼		.03	.03¼	.03	.03⅛
38-40 Straw Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03⅜

*Bunkers.

LUBRICATING OIL AND WAX

	July 26		July 19		July 12	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06½	.06¾	.06½	.06¾	.06½	.06¾
100 vis., 3 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
150 vis., 3 color, 20-25 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
150 vis., 4 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
180 vis., 3 color, 23-28 cold test	.10	.10¼	.10	.10¼	.10	.10¼
180 vis., 4 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 5 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 3 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 4 color, 23-28 cold test	.10⅜	.10⅞	.10⅜	.10⅞	.10⅜	.10⅞
200 vis., 5 color, 23-28 cold test	.10½	.10¾	.10½	.10¾	.10½	.10¾
240 vis., 3 color, 25-30 cold test	.14	.14¼	.14	.14¼	.14	.14¼
240 vis., 4 color, 25-30 cold test	.13½	.13¾	.13½	.13¾	.13½	.13¾
240 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis., 3 color, 25-30 cold test	.15¾	.16¼	.15¾	.16¼	.15¾	.16¼
280 vis., 4 color, 25-30 cold test	.15¼	.15½	.15¼	.15½	.15¼	.15½
280 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
Cylinder Stocks:						
600, steam refined, light green	.07	.09	.07	.09	.07	.09
600, steam refined, dark green	.05	.06	.05	.06	.05	.06
190-200 vis. @ 210 Bright Stock	.31	.33	.31	.33	.31	.33
150-160 vis. @ 210 Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.02⅜	.02½	.02½		.02⅜	.02½
PENNSYLVANIA—						
34 Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.06¾	.07	.06¾	.07	.06¾	.07
150, 3 color	.28¼	.28½	.28¼	.28½	.28¼	.28½
180, 3 color	.32¼	.32½	.32¼	.32½	.32¼	.32½
200, 3 color	.34¼	.34½	.34¼	.34½	.34¼	.34½
220, 3 color	.34¼	.36½	.34¼	.36½	.34¼	.36½
600, steam refined	.08¾	.09	.08¾	.09	.08¾	.09
635, steam refined	.10¼	.10½	.10¼	.10½	.10¼	.10½
650, steam refined	.12¼	.12½	.12¼	.12½	.12¼	.12½
600, Pennsylvania flash	.17½	.18	.17½	.18	.17½	.18
630, Pennsylvania flash	.26½	.27	.26½	.27	.26½	.27
*550, E filtered	.17¼	.18	.17¼	.18	.17¼	.18
*600, E filtered	.18¾	.19½	.18¾	.19½	.18¼	.19
600, E filtered	.17¼	.17¾	.17¼	.17¾	.17¼	.17¾
600, D filtered	.25	.25½	.25	.25½	.25	.25½
550, E filtered	.17½	.18	.17½	.18	.17½	.18
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.32½	.33	.32½	.33	.33	.33½
†122-124 White Crude Scale Wax	.02⅞	.03¼	.02⅞	.03¼	.02⅞	.03¼
†124-126 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07	.07½	.07	.07½	.07	.07½
No. 3 color, 200 vis., pale oil	.10	.10½	.10	.11	.10	.11
No. 3 color, 300 vis., pale oil	.10½	.11	.11	.12	.11	.12
No. 3½ color, 500 vis., pale oil	.12½	.13	.13	.14	.13	.14
No. 4 color, 750 vis., pale oil	.15	.15½	.15	.16	.15	.16
No. 5 to 6 color, 200 vis., red oil	.07¾	.08¼	.08½	.09	.08½	.09
No. 5 to 6 color, 300 vis., red oil	.09	.09½	.09½	.10	.09½	.10
No. 5 to 6 color, 500 vis., red oil	.11	.11½	.11	.11½	.11	.11½
No. 5 to 6 color, 750 vis., red oil	.13½	.14	.14	.14½	.14	.14½
No. 2 color, 200 vis., pale filtered	.12¾	.14	.13	.14	.13	.14
No. 2 color, 300 vis., pale filtered	.14	.14½	.14½	.15	.14½	.15
No. 2½ color, 500 vis., pale filtered	.15½	.16½	.16	.17	.16	.17
No. 2½ color, 750 vis., pale filtered	.20	.20½	.20	.21	.20	.21
CALIFORNIA—						
130 vis., 2½-3 color	.10½	.11	.10½	.11	.10½	.11
200 vis., 2½-3 color	.11	.11½	.11	.11½	.11	.11½

*At Warren, Pa. †At New York City.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

300 vis., 3 -3½ color	.11½	.12	.11½	.12	.11½	.12
350 vis., 3½-4 color	.12	.13	.12	.13	.12	.13
400 vis., 3½-4 color	.13	.15½	.13	.15½	.13	.15½
Red Neutral:						
200 vis., 4½-5 color	.09½	.10½	.09½	.10½	.09½	.10½
300 vis., 5 -6 color	.10½	.11	.10½	.11	.10½	.11
400 vis., 5 -6 color	.12	.13½	.12	.13½	.12	.13½
500 vis., 4½-5 color	.13½	.14½	.13½	.14½	.13½	.14½
500 vis., 5 -6½ color	.12½	.13½	.12½	.13½	.12½	.13½
600 vis., 6 plus color	.13½	.14½	.13½	.14½	.13½	.14½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	July 26	July 19	July 12
Gasoline, U. S. Motor, 58-60 437	.08¾	.08¾	.08¾
Kerosene, water white, 41-43	.07	.07	.07
*Fuel Oil, bunker "C," 14-16, per bbl.	1.65	1.65	1.65
*Fuel Oil, Diesel, 28-30, per bbl.	2.20	2.20	2.20
Gas Oil, 28 plus	.05½	.05½	.05½
25 pale Paraffin Oil	.12	.12	.12
28 pale Paraffin Oil	.07¼	.07¼	.07¼
285 red Paraffin Oil	.12¾	.12¾	.12¾
250 red Paraffin Oil	.11¾	.11¾	.11¾
225 red Paraffin Oil	.10¾	.10¾	.10¾
200 red Paraffin Oil	.09¾	.09¾	.09¾
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a.m.p., per lb.	.04	.04	.04
130-132 a.m.p., per lb.	.04½	.04½	.04½
135-137 a.m.p., per lb.	.05	.05	.05
Petrolatum, in bbls.; carload lots, per lb.:			
Dark green	.01¾	.01¾	.01¾
Amber	.03¼	.03¼	.03¼
Extra amber	.03⅝	.03⅝	.03⅝
Cream	.05⅝	.05⅝	.05⅝
Lily white	.07	.07	.07
Snow white	.08	.08	.08

*Lighterage 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	July 26	July 19	July 12
Gasoline, U. S. Motor, 58-60 437, in cases	.2440	.2440	.2440
Kerosene, standard white, in cases	.1615	.1615	.1615
Kerosene, water white, in cases	.1715	.1715	.1715
600 steam refined cylinder stock, in bbls.	.17	.17	.17
635 steam refined	.19	.19	.19
650 steam refined	.21	.21	.21
600 Pennsylvania flash	.25	.25	.25
630 Pennsylvania flash	.34	.34	.34
600 Warren E	.36	.36	.36
600 Oil City E	.24½	.24½	.24½
Light 135 Bright Stock	.41	.41	.41
Dark 135 Bright Stock	.39	.39	.39

LOS ANGELES EXPORT PRICES

	July 26		July 19		July 12	
Kerosene water white	.04¼	.04½	.04¼	.04½	.04¼	.04½
U. S. Motor Gasoline, 53-55 437 e.p.	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾

CALIFORNIA CRUDE PRICES

***Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)**

Gravity—	Fullerton, Seal Beach, Long Beach, Huntington Beach, Richfield, Rosecrans-Dom'guez, Torrance-Inglewood 1	Whittier, La Habra, Montebello 2	Kern River, Newhall-McKittrick, Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills, Coyote 3	Santa Fe Springs 4	Coalinga 5	Wheeler Ridge 6	Santa Maria, Ventura, Orcutt, Salt Lake 7
14°	.85	.85	.75	.85	....	.75	.85
15°	.85	.85	.75	.85	....	.75	.85
16°	.85	.85	.75	.85	....	.75	.85
17°	.85	.85	.75	.85	....	.75	.85
18°	.85	.85	.75	.85	....	.75	.85
19°	.85	.85	.75	.85	....	.75	.85
20°	.85	.85	.77	.85	....	.76	.85
21°	.86	.85	.79	.86	.85	.77	.85
22°	.87	.85	.81	.87	.85	.78	.85
23°	.88	.85	.83	.88	.85	.79	.85
24°	.89	.85	.85	.89	.85	.80	.85
25°	.90	.86	.87	.90	.86	.81	.86
26°	.92	.87	.89	.91	.87	.83	.87
27°	.94	.88	.91	.92	.88	.85	.88
28°	.96	.89	.93	.93	.89	.87	.89
29°	.98	.90	.96	.94	.91	.89	.91
30°	1.00	.91	.99	.95	.93	.91	.93
31°	1.03	....	1.02	....	.95	.93	.95
32°	1.06	....	1.05	....	.97	.95	.97
33°	1.09	....	1.08	....	.99	.97	.99
34°	1.12	....	1.11	....	1.01	.99	1.01
35°	1.15	....	....	....	1.03	1.01	1.03
36°	1.18	....	....	....	1.06	....	1.06
37°	1.21	....	....	....	1.09	....	1.09
38°	1.24	....	....	....	1.12	....	1.12
39°	1.27	....	....	....	1.15	....	1.15
40°	1.30	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 5—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	Okla., Kans., N. C. Tex., La.-Ark. 1	Smackover, Ark. 2	Stephens, Ark. 3	Wheeler and Gray Counties, (Texas Panhandle) 4	Crane, Upton Crockett Counties (West Texas) 5	Salt Creek, Wyo. 6	Grade B & Light Crude (G. Coast) 7	Somerset, (South Central Texas) 8
Below 24	....	1.00	....	....	....	....	....	....
24 and above	....	1.25	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.15	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	....	.70	....	....	....
26 to 26.9	....	....	....	....	.72	....	1.19	....
27 to 27.9	....	....	....	....	.74	....	1.21	....
Below 28	****	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.76	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.78	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.80	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.82	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.84	1.20	1.31	1.06
33 to 33.9	1.22	....	....	.90	.86	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.88	1.24	1.35	1.09
35 to 35.9	1.26	....	....	.94	.90	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.92	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule May 5, making price below 33 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 33-33.9 gravity at $1.07 as basis, with a top price of $1.45 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 13; Carter Oil Co., The Texas Company, March 14.

North Central Texas—(Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light); Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer and El Dorado only); Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—Standard Oil Co. of Louisiana, The Texas Company, Gulf, Atlantic, March 17, Magnolia Petroleum Co. (March 16) posted price of $1 for below 24 degrees and $1.15 for 24 and above. Louisiana Oil Corp., July 6 and Atlantic Oil Producing Co., July 7.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14.

Column 5—Humble Oil & Refining Co., Kay County Gas Co. and Gulf Pipe Line Co., March 14.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

****Prices for crude below 28 gravity: Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree with exception of Humble Oil & Refining Co., which pays $1.12 for crude below 28 degrees gravity.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)	$1.00
Other fields	See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County	$ .95
*Hutchinson County	.95
Gray-Wheeler Counties	See gravity table

*Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Kay County Gas Co., March 14.

WEST TEXAS

*Iatan (Same as North Texas)	
Crane-Upton-Crockett	See gravity table

*Includes Howard County and Westbrook Fields. Kay County Gas Co. pays $1.05 for Howard County crude, effective May 21.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (March 17)	$1.00
Bellevue (Feb. 24, 1927)	1.25
Urania (March 16, 1927)	1.00
East El Dorado (March 16)	1.00
Other fields	See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

†Grade A (March 14)	$1.20
Grade B	See gravity table
*Jennings, La. (March 14)	1.05
†Saratoga, Batson, Dayton (March 14, 1927)	1.20
**Markham (March 14)	1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. **The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)	$1.00
†Mirando (March 14)	1.00
Rockdale-Minerva (May 15 to 39.7 gr.)	1.25
*Thrall	
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as north central Texas less 19½ cents per cwt. freight.

†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

*2 cent differential per degree above 37.9 gr. to 40 and above at $1.31

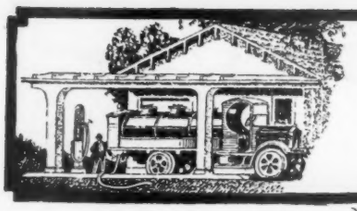
ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

(Effective March 14)

Rock Creek, Wyo. (March 12)	$1.25
Salt Creek	See gravity table
Big Muddy (March 12)	1.25
Mule Creek (May 1)	1.10
Grass Creek, heavy	.90
Grass Creek, light	1.33
Elk Basin (March 12)	1.33
Lance Creek (March 12)	1.33
Poison Spider	1.00
Notches	.65
Rex Lake (February 22)	1.10
Osage	1.33
Lost Soldier (contract)	.95
Greybull-Torchlight	1.33
Hamilton Dome	1.35
Cat Creek (Mont.)	1.33

(Continued on Page 234)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns July 26.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Chicago dist. ..	14.0	16.0	...	12.0
Decatur, Ill. ..	14.2	16.2	...	12.1
E. St. Louis ...	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	10.0	12.0	...	12.1
Quincy	14.2	16.2	...	10.9
Davenport, Ia.	17.5	19.5	3.0	12.3
Des Moines ...	17.0	19.0	3.0	12.3
Keokuk	17.5	19.5	3.0	12.3
Sioux City	17.1	19.1	3.0	11.9
Duluth, Minn. .	16.5	17.5	2.0	12.9
Minneapolis ...	14.0	16.0	2.0	12.9
Mankato . ..	17.1	19.1	2.0	12.7
LaCross, Wis ..	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich. .	16.8	18.8	2.0	12.7
Grand Rapids .	15.0	17.0	2.0	13.6
Saginaw	16.9	18.9	2.0	13.6
Evansville, Ind.	17.4	19.0	3.0	13.0
Ft. Wayne	17.4	19.4	3.0	13.4
Indianapolis ..	17.2	19.2	3.0	13.2
South Bend ...	17.4	19.4	3.0	13.4
Fargo, N. D. ..	17.0	19.0	2.0	14.9
Huron, S. D. .	19.5	21.5	4.0	13.9
Sioux Falls ...	18.1	20.1	4.0	13.4
K. C. Mo.	14.9	16.9	3.0	10.6
*Springfield ...	16.8	18.8	3.0	11.5
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph ...	16.5	18.5	3.0	11.2
Wichita, Kans.	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16.0	11.75
V. M. & P. naphtha	18.0	13.75
Cleaner's naphtha	18.0	13.75
Stanisol	19.0	.....

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
All Ohio points	19.0	21.0	3.0	14.5

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Dallas, Tex. ...	15.0	18.0	3.0	11.0
Fort Worth ...	15.0	18.0	3.0	10.0
Houston	15.0	19.0	3.0	15.0
San Antonio ...	15.0	18.0	3.0	11.0
El Paso	17.0	19.0	3.0	16.0
Texarkana	16.0	19.0	3.0	12.0
Muskogee, Ok..	15.0	18.0	3.0	9.0
Okla. City ...	15.0	18.0	3.0	9.0
Tulsa	15.0	18.0	3.0	9.0
Ft. Smith, Ark.	18.0	21.0	5.0	12.0
Little Rock ...	14.0	17.0	5.0	12.0

The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge ..	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	15.0	18.0	3.0	13.5
Lake Charles ..	15.5	18.5	2.0	14.0
Shreveport . . .	15.5	18.5	2.0	13.0
Knoxville, Tenn.	19.5	22.5	3.0	15.0
Memphis	15.5	18.5	3.0	14.0
Chattanooga .	19.5	22.5	3.0	15.0
Nashville	18.0	21.0	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	18.0	21.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent. *Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlanta, Ga. ...	18.0	21.0	4.0	15.0
Augusta	19.0	22.0	4.0	16.0
Macon	19.0	22.0	4.0	16.0
Savannah	16.0	18.0	4.0	14.0
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20.0	4.0	15.0
Montgomery ...	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	13.5
Jackson	17.0	20.0	4.0	14.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	18.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	18.0	21.0	5.0	14.0
Miami	20.0	23.0	5.0	14.0
Pensacola	19.0	22.0	5.0	15.5
Tampa	17.0	20.0	5.0	15.0
Lexington, Ky.	18.0	21.0	5.0	15.5
Covington, Ky.	19.0	22.0	5.0	15.5
Louisville	19.0	22.0	5.0	13.5

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Prices in Georgia include one-half cent inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Pittsburgh, Pa.	16 0	*22 0	...	14.0
Philadelphia ..	14 0	17 0	...	14.0
Scranton	16 0	*22 0	...	14 0
Allentown	16 0	*22 0	...	14.0
Altoona	16 0	*22.0	...	14 0
Erie	14.0	*18.0	...	14.0
Dover, Del. ...	19.0	22.0	3.0	14.0
Wilmington ...	19.0	22.0	3.0	14.0
Spring'd, Mass.	17 0	17 0	....	15.0
Worchester ...	17.0	17 0	....	15.0
Boston	17 0	17 0	....	15.0
Providence, R.I.	18 0	19.0	2 0	15 0
Hartford, Conn.	21 0	22 0	2 0	15.0
New Haven ...	21.0	22.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Albany, N. Y. .	19.0	21.0	...	15.0
*New York ...	19.0	23.0	...	15.0
Buffalo	18.0	21.0	...	14.0
Rochester . . .	13.0	16.0	...	14.0
Syracuse	19.0	21.0	...	15.0
Boston, Mass. .	17.0	19.0	...	15.0
Augusta, Me. ..	22.0	26.0	3.0	15.0
M'nchest'r, N.H.	17.0	21.0	2.0	15.0
Burlington, Vt.	21.0	23.0	3.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
San Francisco .	16.0	20.0	2.0	15.5
Pueblo	17.0	17.0	2.0	15.5
Los Angeles ..	15.5	19.5	2.0	15.5
Reno, Nev. ...	22.0	26.0	4.0	19.0
Portland, Ore. .	17.5	21.5	3.0	16.5
Seattle, Wash..	16.5	20.5	2.0	16.5
Tacoma	16.5	20.5	2.0	16.5
Spokane	20.5	24.5	2.0	20.5
Phoenix, Ariz. .	22.0	26.0	3.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlantic City .	18.0	....	2.0	14.0
Newark, N. J..	18.0	20.0	2.0	14.0
Annapolis, Md..	20.0	23.0	4.0	12.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland ...	20.0	23.0	4.0	14.0
Washington . .	18.0	21.0	2.0	12.0
Danville, Va. ...	20.5	....	4.5	14.0
Norfolk	20.5	20.5	4.5	12.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	20.5	23.5	4.5	14.0
Charleston, W. Va.	20.0	23.0	4.0	13.0
Keyser	20.0	....	4.0	14.0
Parkersburg ...	17.0	20.0	4.0	14.0
Wheeling	20.0	23.0	4.0	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	23.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charl'stn, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	20.0	5.0	14.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Omaha	14.25	16.25	2.0	12.25
McCook	14.75	14.75	2.0	11.50
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Denver, Colo. ..	18.0	20.0	2.0	14.5
Pueblo	18.0	20.0	2.0	14.5
Grand Junction	21.5	23.5	2.0	18.0
Casper, Wyo. ..	18.0	20.0	3.0	13.0
Cheyenne	19.0	21.0	3.0	14.5
Butte, Mont. ..	22.0	22.0	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt Lake, Utah	21.0	23.0	3.5	17.0
Boise, Idaho...	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0
Albu'que, N. M.	21.0	24.0	5.0	17.0

TANKWAGON CHANGES

July 16.—Standard Oil Co. of Indiana reduced the gasoline tank wagon and station prices 4.2 cents in Peoria, Ill.

July 19.—Standard Oil Co. of Indiana reduced the gasoline tank wagon and station prices 1.7 cents in Grand Rapids, Mich.

July 20.—Standard Oil Co. of Indiana reduced the gasoline tank wagon and station prices .2 cents in Sioux Falls, S. Dak., to allow for the freight adjustment effective on that date.

July 21.—Atlantic Refining Co. increased the gasoline station price 1 cent at all points in Pennsylvania to equalize the increased tax from 2 to 3 cents. The gasoline station price was reduced 2 cents throughout Massachusetts and reduced 1 cent in Rhode Island and Connecticut after absorbing a 1-cent increase in the tax in Connecticut from 1 to 2 cents.

July 23.—Standard Oil Co. of Ohio reduced kerosene tank wagon one-half cent.

July 23.—Standard Oil Co. of Kentucky reduced kerosene tank wagon 2½ cents in Louisville, Ky.

POLES MARKED BY RED TOPS

This issue of The Oil and Gas Journal carries an announcement by the Texas Creosoting Co. of Orange, Tex., that in the future their "Black Beauty" poles can be more easily identified, both by the purchaser and by the general public. After the proper creosoting has been accomplished the roof of each "Black Beauty" pole will be painted a brilliant red. This mark of identification will be in addition to the use of the usual dating nail. R. S. Manley is president and D. E. Roach sales manager of the Texas Creosoting Co.

PENNSYLVANIA MARKET PRICES REMAIN FIRM

OIL CITY, Pa., July 23.—Conditions in the Pennsylvania refined market during the past week did not show much change over those existing during the previous few weeks. Gasoline and naphthas were moving well at all the refineries in the district and the prices remained firm. Actual consumption was large as the top of the tourist season is now being reached and the use of automobiles in the eastern area is at its peak. Kerosene is slower and just moving fair. Farmers are now in the haying season, tractors are idle and the consumption has lessened considerably on that account. Neutrals are still in great demand although a trifle slower. Motor oils are moving fine. There was no change in cylinder stocks which continue to be very weak. Wax was reported unchanged by some refiners and softer by others. Bright stocks continued in good demand. Fuel oil is moving good and more inquiries are being received.

SHREVEPORT MARKETS VIRTUALLY UNCHANGED

SHREVEPORT, La., July 25.—North Louisiana-Arkansas refinery markets reflected virtually no change the past week. An attempt was made by one large refiner to boost the quotation on gasoline a quarter cent to 7½ cents but the latter price failed to get any business and this seller Monday again was down to 7¼ cents. A fair demand for gasoline continues and outwardly the market is firm at 7¼ cents. No offerings below that figure have been reported although production of gasoline is being increased in this district.

Kerosene was free at 4¼ to 4½ cents Monday with little demand and gas oil was slow at 3 to 3¼ cents. Fuel oil was unchanged.

CRUDE OIL PRICES

(Continued from Page 233)

Sunburst (Mont.)	1.35
Artesia (March 12)	1.00
Hogback (N. Mex.) (March 14)	1.38

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective April 13)

Penna Grade Oil in New York Transit Line (New York)	$2.90
Bradford District Oil in National Transit Lines (Pennsylvania)	2.90
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.90
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.90
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.70
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) March 16	1.40
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17).....	1.45
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) March 16	1.50
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	.95
Keister (Pennsylvania)	1.10

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.77
**Saginaw, Mich., Saginaw Sand (May	
Illinois	1.60
Indiana	1.48
Princeton	1.60
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.33
**Saginaw, Mich., Berea Sand (May 27)	1.95
27)	2.05
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)..	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
†Clay County, Tennessee (November 18	2.35
§Oil Springs (Canada)	2.18
‖Petrolia (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICAN CRUDE

Note—Due to the fact that the exportation of Tuxpam light crude oil has become a negligible factor, prices will no longer be published.

*Panuco heavy (f.o.b. Mex. ports)	1.15

*17.496 tax.

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THIS sign *always* identifies the station along-the-highway where a motorist can buy *the Oil* which will give him correct lubrication.

The motorist is learning that where he sees this sign he gets the *right grade* of motor oil to seal the power in his engine at every degree of wear.

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Oil Securities Inactive During Week

Houston Oil Sole Exception With Drop of 20 Points. Otherwise There Were No Major Changes in Quotations

The oil group furnished only a trading market during the past week, with no major changes in the positions of the stocks excepting Houston Oil which sold down to 149, a drop of 20 points from its former position.

The dissolution of the Phillips Petroleum bond syndicate was announced during the week with the result that the bonds which had previously sold at 99¼ dropped to 93½.

With these exceptions there was li tle activity in the oils, with considerable buying on the dips, and selling on the bulges.

Independent Oil & Gas Co.'s net earnings for the second quarter of 1927 were $324.604 or 65 cents per share against $634,530 or $1.25 per share for the first quarter of the year. This makes Independent's net earnings for the first half of the year $1.91 against $1.86 for the first half of 1926.

Cities Service

Net earnings of Cities Service Co. for June were $2.499.186, establishing a new high record for that month and making a total of $15.954.232 for the company for the first six months of 1927, an increase of 30 per cent over the first half of 1926.

Net earnings for the 12 months ended June 30, 1927 were $28.204,935, an increase of 36 per cent over $20,734.926 for June, 1926.

Net to common stock and reserves for the 12 months ended June 30, 1927 was $18.962,740, the largest in the history of the company and equivalent to 23.63 per cent on the average amount of common stock outstanding or $4.72 per share of $20 par value common stock. This compares with $12.557.148 net to common stock and reserves for the 12 months ended June 30, 1926, which was equivalent to 16.58 per cent or $3.31 per share of common stock then outstanding.

Vacuum Oil

Vacuum Oil stock is one of the few in the oil group that has made extensive advances this year and held them. Recently this issue has been active and at the high of around 135. Vacuum Oil specializes in the manufacture and sale of lubricants, prices for which have held relatively steady this year. At the same time the company has probably benefited through its ability to buy crude oil more cheaply.

Colombian Oils

There has been considerable activity and strength in stocks of companies owning large prospective oil land holdings in Colombia, South America. This is despite the fact that much new development in that country has been held up for many months by dry weather. Thousands of tons of material has been held up at the seacoast ports and many oil companies as well as others have been unable to move equipment to interior points. Work has continued on the second Andean National pipe line, however, and increased shipments from the DeMares concession can be expected within a few weeks.

Meanwhile the Gulf Oil Corp., which let its recent option to develop Colombia Syndicate properties expire, is understood to have started new negotiations with the end in view of acquiring an interest in these same properties. Gulf permitted the option to expire April 30, last, without taking any action. This contract required Gulf to pay $500,000 to Colombia Syndicate for the transfer of leases, also an overriding royalty of 6 per cent of the market value of oil and products obtained and in addition 10 per cent of net profits derived by Gulf from properties it elects to operate.

Houston Oil

The consolidated report of the Houston Oil Co. of Texas and the Houston Pipe Line Co. for the quarter ended June 30, 1927, shows net profit of $657,123 after taxes, interest, depreciation and depletion, equivalent after allowing for dividend requirements on 6 per cent preferred stock to $2.09 a share earned on 249,686 shares of common stock. This compares with $680,895, or $2.18 a share, in the preceding quarter.

The net profit for the first half of 1927 amounted to $1,338,019 after the above charges, equal to $4.28 a share on the common.

Texas Corporation

Earnings of the Texas Corporation for the first five months of 1927 are understood to have covered dividend requirements by a comfortable margin after adjustment of inventory and all other deductions and the June results are not expected to alter this materially. The company is in a better position than most companies in the petroleum industry, it is stated, because roughly, only about 20 per cent of earnings comes from gasoline, the remainder being derived from various forms of lubricating oil on which there has been no price change. In addition, with recent unsatisfactory conditions the company has reduced the amount of gasoline cracked, putting out larger percentage of its production as fuel oil. It also has been storing large quantities of oil, believing that it was being obtained at less than cost of production and therefore cheap.

The directors of the company did not borrow money for this purpose, however, merely carrying as much as possible on the company's own financial abilities. Therefore, the company is in a comfortable position, as regards earnings, storage and current position.

MARLAND OIL CO. AND SUBSIDIARY COMPANIES CONSOLIDATED STATEMENT OF INCOME

	Three months ended March 31, '27	Three months ended June 30, '27	Six months ended June 30, '27
Gross earnings	$19.350.146	$12,829,953	$32,180,099
Operating and administrative expenses	15,581.079	10,354,740	25,935.819
Net earnings	$ 3,769.067	$ 2,475,213	$ 6,244,280
Miscellaneous income:			
Comar Oil Co.	$ 965.100	$ 222,900	$ 1,188.000
Other income	315.230	300.342	615.572
Gross income	$ 5.049.397	$ 2,998.455	5 8,047.852
Interest and discount	81,640	185.652	267.292
Net income before capital extinguishments	$ 4,967.757	$ 2,812.803	$ 7,780.560
Reserves for depreciation	1,376.976	1,444,158	2,821.134
Reserves for depletion	131.157	119.997	251.154
Reserves for intangible drilling costs	2,828.969	3,006.111	5,835.080
Surrendered leases	401.963	398,037	800,000
Net income	$ 228.692	$ 2,155.500	$ 1,926,808
Surplus December 31, 1926	8,398.868	.....	8,398.868
	$ 8.627.560		$ 6,472.060
Dividends paid	2,310.853		2,310.853
Balance	$ 6,316,707		$ 4,161,207

Lion Oil

The income account of the Lion Oil Refining Co. for the six months ended June 30, 1927, follows:

Sales	$3.243.884
Costs and expenses	2,278.450
Balance	$ 965.434
Other income	22.890
Total income	$ 988.324
Interest	36,328
Profit before deprec., deplet. and Federal taxes	$ 951.696

The above figures reflect the financial condition of the company on June 30, 1927, before deducting depreciation and depletion on producing property and Federal taxes for the year 1927.

The balance sheet as of June 30, 1927, follows:

Assets: Cash, $157.139; accounts and notes receivable, $271.462; inventories, $1.233.383; prepaid expenses, $12.615; producing property and equipment, $5.311.778; nonproductive leases, $152,-309; refining plant, pipe lines, tank cars, etc., $3.828.270; total, $10.966.956.

Liabilities: Notes payable, $42,841; accounts payable, $217,332; reserves and accruals, $203.695; first mortgage 7 per cent bonds, $525.000; deferred liabilities, $27.895; capital stock and surplus represented by 200.000 no par shares, $6,524,-487; total, $10.966.956.

White Eagle Oil

The White Eagle Oil & Refining Co. reports for the quarter ended June 30, 1927, profit of $702.688 after expenses and miscellaneous charges, but before depreciation, depletion and Federal taxes, comparing with profit of $388.006 in the preceding quarter and $927,777 in the second quarter of 1926. The company has outstanding 490 000 no par shares of stock. The profit for the first six months of 1927 amounted to $1,090.694 before depreciation, depletion and Federal taxes, against $1,344.692 in the first six months of the previous year.

The income account for the quarter ended June 30, 1927, compares as follows:

	1927	1926
Sales	$4.278.235	$5.287.613
Costs and expenses	3.536.960	4,337.984
Operating profit	$ 741.275	$ 949.629
Income chgs., net	38.587	21.852
*Profit	$ 702.688	$ 927.777
For the six months ended June 30, 1927:		
Sales	$7.733.267	$8.508.241
Costs and expenses	6.564.270	7,121.089
Operating profit	$1.168.997	$1,387,152
Incom. chgs., net	78.303	42.460
*Profit	$1,090,694	$1,344,692

*Before depreciation, depletion and Federal taxes.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. July 25	July 18	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	29⅛	30	37⅝	27⅝	32⅞	23¾	..	..
Atlantic Refining, com.	100	119	116	125⅝	107	128⅝	87	117½	95½
Barnsdall "A"	25	23¼	24½	35½	23	32½	23½	33½	18¾
California Petroleum, com.	25	24⅝	24	32⅞	21½	38⅛	9 ⅞	34 ⅞	23⅝
Houston Oil	100	152⅜	168⅜	173¼	60½	75	50¼	85	59
Independent Oil & Gas	..	20⅛	20	32¾	17⅜	34	20¼	41¾	13½
Louisiana Oil	10	11⅝	12⅛	18⅜	11½	19⅜	12	23¾	13¾
Maracaibo	..	*14	14	22¾	16	27⅜	18⅜	35½	20⅜
Marland	..	33⅛	34	58¼	31	63⅝	49¼	60½	32½
Mid-Continent Petroleum	..	30⅜	31	39⅜	29	41	25⅜	38	2.⅜
National Supply	50	81	82	95⅜	76	84⅞	55½	71	54⅜
Oil Well Supply	25	36½	39⅜	44⅜	31¼	36	20	38	33⅜
Pan American B	50	55½	56	66⅞	54	72⅜	56⅛	83⅞	5 ½
Pan American, Western B	..	20	20½	37⅜	19	46	34	94⅜	37¼
Phillips Petroleum	..	40	40⅜	60¼	38¼	5.⅞	42½	7⅛	36 .
Producers & Refiners	50	23⅞	24½	33⅞	16¾	26	11	32 ⅞	12½
Pure Oil, com.	..	26½	26¼	33½	26	31	25⅜	3.⅜	25 ⅜
Royal Dutch, N. Y., sh.	13.40	45⅝	48	54½	48½	57⅜	49⅜	57⅜	48¼
Shell Transport	10	*43⅜	44	49	43⅜	48⅞	42	49	39¾
Shell Union, com.	..	27¼	27	31⅜	25⅝	30⅞	24	28¾	21⅝
Simms Petroleum	10	14⅞	14½	22⅝	14½	28⅝	16½	28½	18¾
Sinclair Consolidated	..	16¼	16⅝	22⅜	16½	24⅞	16⅜	24⅞	17
Skelly Oil	25	27	26⅞	37⅜	24¼	37½	27	32½	21¾
Standard of California	25	53⅜	53⅝	60¾	50⅝	63½	54	67⅛	52½
Standard of New Jersey, com.	25	37¼	37	41⅝	35⅛	46⅝	37½	47½	38⅝
Standard of New York	25	31	30½	34¼	29⅝	47¼	30⅝	48⅜	40
Sun Oil Co.	..	33	33⅛	34⅛	30	41 ⅞	30⅛	42⅜	38½
The Texas Company	25	48⅜	47¼	58	45	58	48	55	43⅜
Texas Pacific Coal & Oil	10	14⅝	15	18⅞	12	15½	12⅛	23⅜	11
Tide Water Associated Oil	..	17	16¼	23½	15½	21	17	..	..
Transcontinental	..	7⅜	8⅜	8¾	3⅜	5½	2	5⅝	3½
Union Oil of California	25	42½	42⅛	56½	39⅝	53⅜	37½	43⅞	23½
Union Tank, com.	100	*114	112¼	115	95	120⅜	84¼	‡134	118
White Eagle Oil & Refining	..	22¼	22½	27½	22	29¾	25½	21⅝	25⅝
Standard Oils									
Anglo-American Oil	£1	*18⅛	18¼	21⅝	18¾	19⅜	16½	26¾	17½
Borne Scrymser	25	*58½	56	69	49½	75	65	‡240	205
Buckeye Pipe Line	50	*56	57	58	45	59½	42	72	63½
Chesebrough Manufacturing Co.	25	*108	105	107	76½	81½	63	74	98¼
Continental	10	17¼	17¼	22⅝	17	25⅞	19¼	31½	21⅞
Cumberland Pipe Line	100	*89½	91½	$137	50⅛	137	102	156	128
Eureka Pipe Line	100	*53	53	56¼	47	53¾	43	96	6 ¼
Galena Signal, com.	100	*7	7⅛	13⅛	7⅛	32⅛	9⅞	6¼	23½
Humble Oil & Refining Co.	25	59⅛	60⅜	62⅜	54	99⅝	52	99	42½
Illinois Pipe Line	100	147⅜	147½	150	1.3⅜	144	131	1.⅛	12
Imperial Oil	..	*44⅛	43⅞	47	37⅝	39¾	32½	89¼	2.¼
Indiana Pipe Line	50	*67	6.½	72½	61	68	52¼	84	87½
International Petroleum Co.	10	28⅜	28⅜	34⅞	28½	35¼	28⅜	25⅜	22½
National Transit Co.	12.50	*15⅜	15⅜	17½	13⅜	30¾	27¼	25½	16½
New York Transit	100	*33	33	36	31¼	51½	27¼	70	50
Northern Pipe Line	100	*82	84	88	70	80½	64	88	6.½
Ohio Oil Co.	25	59⅜	60½	64¼	52	67¾	55¾	75¼	60
Penn-Mex Fuel	25	*26	27	31	12	24¼	15	44	11
Prairie Oil & Gas	25	45½	48⅝	55½	45⅝	60¼	48	65½	45⅝
Prairie Pipe Line	100	184	184	185	132	13.½	122½	12.¾	.0.
Solar Refining Co.	100	*178	178	‡201¼	178	212	184½	159	200
South Penn Oil	25	*37	35¼	31½	34½	50	35	‡197	139
Southwest Pa. Pipe Line	100	*69	67	77	55½	56	47½	84	50
Southern Pipe Line	50	*17¼	17¼	‡27¼	24	27	24	$103	63
Standard of Indiana	25	68⅝	69⅛	74¼	64¼	70½	60½	70⅜	60¼
Standard of Kansas	25	*17	18¾	20⅞	15⅞	36½	16⅛	46	30¼
Standard of Kentucky	25	120⅜	120	122¼	111⅝	134⅞	108	137	114⅝
Standard of Nebraska	25	*44	43½	49½	45	51⅝	.2	‡270	231
Standard of Ohio, com.	100	76	74	‡354	294	362	1.2½	369	338
Swan & Finch, com.	25	*17⅛	17¼	17	15	21	18	27	12
Vacuum Oil	25	132	131½	134	95⅛	109¾	9.⅛	10.½	80½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	91	91	96½	86¼	98	82½	9 ⅛	63½

*Bid, no sales. ‡Old stock. †New stock.
Quotations furnished by W. J. Wollman & Co.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

July 25	60.55	June 20	60.46	May 16	58.10
July 18	60.36	June 13	59.91	May 9	58.08
July 11	59.36	June 6	59.27	May 2	57.13
July 2	58.99	May 28	58.68	Apr. 25	57.03
June 27	58.99	May 23	57.89	Apr. 18	57.42

G. C. MORGENSTERN DIES

George C. Morgenstern, 47 years old, oil editor of the Tulsa Daily World, died at his home in Tulsa July 25, after a lingering illness. Mr. Morgenstern had been identified with newspaper work in Oklahoma for over 20 years.

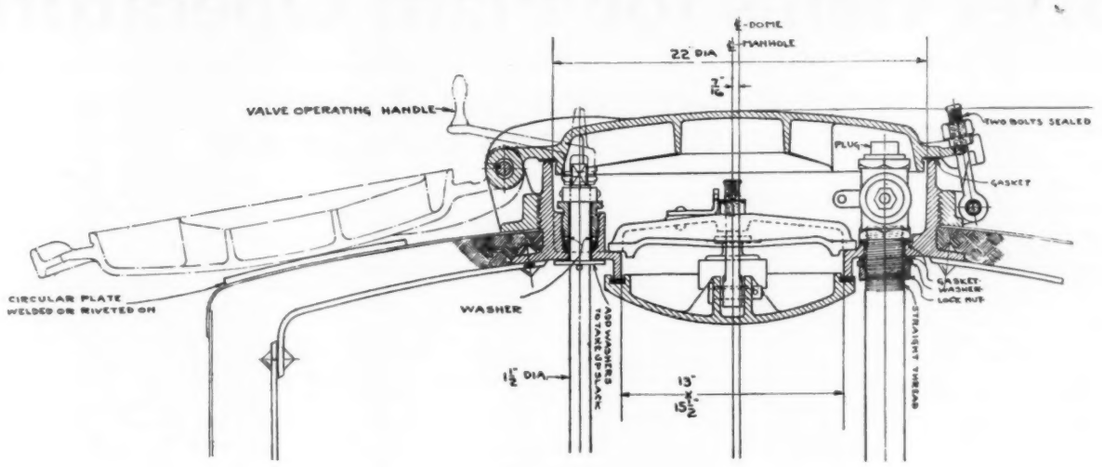


FIGURE 1.

New Vapor-Saving Devices for Class IV Tank Cars

The above drawing shows a new dome cover arrangement for Class IV Tank Cars, which, while retaining the present type of outer dome cover, introduces a new internal cover and other improvements with the following advantages:

Permits loading and unloading of natural gasoline without waste of wet gases, effecting a saving of several hundreds of gallons per car.

By eliminating waste gases, introduces a new factor of safety in the handling of this fluid.

Permits gauging contents of the tank without removing internal dome cover, by means of a new step gauge and two heavy plate glass peep holes in the internal cover.

Permits sampling of the liquid without removing dome cover.

The hinged internal dome cover can be dropped down to allow easy access to the inside of the tank.

The outer dome cover is gas-tight and provided with a special arrangement such that, if leakage should occur through the internal cover (which is practically impossible), the outer cover could not be opened and would provide an additional safeguard. In other words, all of these new devices are extra factors of safety, as the outer cover alone is equal in strength to the present standard dome cover.

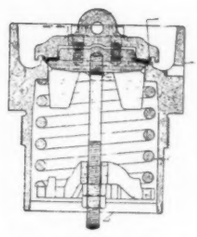


FIGURE 2.

Figure 2 shows a new safety valve, with patented resilient gasket, recently approved by the A. R. A. Tank Car Committee. While not a radical departure in general design from the type of safety valve now in use, the new arrangement has the advantage of preventing any escape of gases at pressures less than 25 pounds.

Seventy new Class IV cars with these new vapor-saving devices are now being built by us. Complete information on request.

American Car and Foundry Company

New York	Chicago	St. Louis
30 Church Street	Railway Exchange Building	915 Olive Street

Brief Items for Plant Operators

INVENTOR OF TROPSCH PROCESS IN CHICAGO

CHICAGO, July 26.—Dr. Hans Tropsch, assistant director of the Kaiser Wilhelm Research Institute for Coal in Berlin where he is associated with Doctor Fischer, is a visitor in Chicago. These scientists are the inventors of the Tropsch process for the production of carbohydrides of the petroleum group from water gas which Doctor Tropsch states is a success in the laboratory and which he believes will prove successful when developed comercially.

Doctor Tropsch visited the laboratories of the Universal Oil Products Co. at Riverside yesterday and is inspecting the refinery of the Roxana Petroleum Corp. at East Chicago today. He leaves the city tomorrow and sails for Europe on August 4. Doctor Tropsch came to the United States to deliver a series of lectures before the Chemical Research Institute at Pennsylvania State College.

SAN ANGELO REFINERY IS DAMAGED BY FIRE

SAN ANGELO, Tex., July 23.—The San Angelo Refining Co. has suffered a loss of between $50,000 and $75,000 in a fire of undetermined origin, according to R. P. Humes, vice president of the company.

About 2,500 bbls. of crude and refined products were destroyed and an equal amount of oil was damaged. Besides this damage two 1,000-bbl. capacity shell stills, condensers, vapor lines, pump house and all of the pumps were ruined.

A new pipe still with a daily capacity of 2,000 bbls. had not yet been placed in operation. Officials of the company said that rebuilding of equipment and plant would start at once on a larger scale than before and it is planned to increase the capacity of the refinery to 3,000 bbls. a day.

NEW REFINERY MAP

The Western Petroleum Refiners Association has completed a new refinery map and it will be available for distribution after August 1. The map includes a new and valuable feature not shown on previous maps in that the railroads to each refinery are listed.

The map is 38 by 64 inches in size making it sufficiently large to show all of the details. In addition to the refinery locations and the railroads serving these, the name of each refinery is listed with its capacity, status on January 1, and whether it is equipped with cracking stills.

The respective marketing territories are outlined and named and a recapitulation of the data shows the refining capacities by states and the refineries included in each section as listed by the Government. These figures are based on the government survey. Much of the credit due in making up this map should go to E. H. Ritter, assistant statistician. Nonmembers of the association may secure them from the Western Petroleum Association, Cosden Building, Tulsa, for $2.

ELECT WINSHIP PRESIDENT

W. E. Winship, who has been engaged in the marketing of petroleum products, has been elected president of the Chalmette Petroleum Corp. The corporation has taken over the oil-handling facilities of Mr. Winship and will complete the purchase and sales contracts.

The officers of the Chalmette corporation will continue in the Union Indemnity Building, New Orleans.

OPPOSING DEVELOPMENTS IN ENGINE DESIGN AS TO MOTOR FUELS USED

Two new developments in engine design for automobiles which are of interest to refiners of gasoline were announced during the past week. Both engines are of the high compression type but differ in the kind of gasoline recommended as motor fuel to secure satisfactory motor performance.

In the case of the Hudson Motor Car Co. the company announces a high compression type motor to be installed in all new models. Although the compression ratio is considerable higher than in previous models, the engine is designed to use all motor fuels and the exclusive use of the so-called antiknock gasoline is not necessary.

The other high compression engine was announced by the Chrysler Motor Co. and the use of antiknock motor fuels is recommended. The Chrysler company is the first motor car manufacturer to announce a change in motor car design to take advantage of the special antiknock motor fuels. It is understood that in the near future other manufacturers also will announce high compression motors which will give satisfactory service only when the special antiknock motor fuels are used.

In this connection it is reported in the automobile trade that the General Motors Corp. will have one or more of its subsidiary manufacturing organizations, place on the market an engine designed to use Ethyl gasoline. This antiknock fuel was developed by the research department of the General Motors Corp. and its distribution through the Ethyl Gasoline Corp., is jointly controlled by that corporation and the Standard Oil Co. of New Jersey.

A wide distribution of ethyl gasoline has been perfected and the plans of the Ethyl Gasoline Corp. call for marketing outlets which will make the gasoline available to all owners for motor vehicles throughout the United States. No special mention of the ethyl gasoline is made by the Chrysler organization in connection with the new high compression motor which is to be painted a distinctive red and to be known as the "Red Head" motor. The motor will be installed in any of the Chrysler models if desired by the owners.

New Hudson Motor

The new Hudson motor is of special interest to the gasoline marketing trade as it apparently marks a departure in engine design which may be of vital importance to all refiners of motor fuels. It has been assumed in the past that it was impossible to perfect a motor of relatively high compression without using gasolines of greater antiknock properties than are found in the ordinary domestic grades of gasoline.

In the new head of the Hudson motor the relative positions of the exhaust and intake valves have been changed so that the intake valve, which is located in the head, slightly overlaps the exhaust valve in the block. Fuel entering the combustion chamber thus strikes the exhaust valve, which being the hottest portion of the head, acts as a hot spot to vaporize any fuel still in liquid form. The incoming fuel also acts as a cooling medium for the exhaust valve in this respect. Over about half the piston area there is no recess in the head, and the clearance of the piston under this portion is therefore equal to only the thickness of the gasket between head and block. It is this design which makes possible the small compression volume obtained with this F-head engine.

To prevent "knocking" in the engine, the spark plug has been moved to the far side of the combustion chamber, where it is located in the cylinder head side wall. With this arrangement the combustion space is concentrated over the exhaust valve, and the compactness of the compression chamber, together with the location of the spark plug in one side thereof, instead of in the head, are said to suppress detonation.

No changes have been found necessary in spark plug design in spite of the high compression ratio now used. The engine changes and the new type of head have improved the performance. This is most noticeable in a quicker get-away and greater acceleration.

AMONG THE TECHNICAL MEN

R. R. Hooks, superintendent of gas and gasoline for The Texas Company in Louisiana, Arkansas and East Texas, has had wide experience not only in operation and construction of gasoline plants, but also in various phases of the oil industry from the bottom up.

R. R. Hooks

Starting when a youth as a roustabout and tool dresser in Pennsylvania and West Virginia fields, Mr. Hooks has seen service in all lines of production work, and on coming to the Mid-Continent has watched the development of the natural gasoline industry almost from its infancy.

Mr. Hooks has had charge of gasoline plant work in Louisiana, Arkansas and East Texas since 1920, when he was transferred from Oklahoma, where he had been assistant superintendent of that district. When, in 1926, the gas department of The Texas Company was consolidated with the production end, he was given charge of both gas and gasoline plant work.

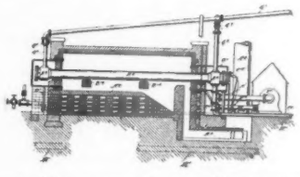
Mr. Hooks started to work for The Texas Company in 1915 as an engineer at its Preston, Okla., plant. He was promoted to chief engineer at the Jenks, Okla., plant, was transferred in the same capacity to the Drumright plant, and later was assigned to general gasoline and vacuum plant construction work in Oklahoma.

Previous to being with The Texas Company, Mr. Hooks was employed by the Pulaski Oil Co., going to work at Kiefer the 1st of January, 1907, after coming from the East with the opening of the Glenn Pool boom. Serving as production foreman he had opportunity to study gasoline plants from the construction and operation of those built on the Pulaski Oil Co.'s leases, and by 1915, when he went with The Texas Company, he was well versed in this phase of the industry.

Mr. Hooks was born in Chicora, Pa., in 1888. His father was Robert Hooks, who was a pioneer in the Oil Creek Field and owned extensive production in Pennsylvania and West Virginia.

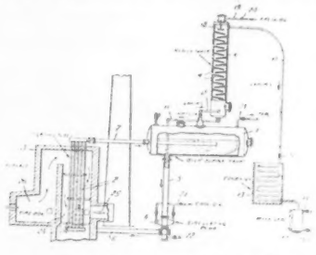
RECENT PATENTS

1,628,127. Process for Treating Hydrocarbon Oils. Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed December 17, 1921. Serial No. 523,113. Two claims. (Cl. 196-132.)



1. The process for cracking hydrocarbon oil, which consists in supplying oil under pressure to a heating zone, in passing heated oil from the heating zone to a distilling zone, in taking off vapors from the distilling zone, in controlling the quantity of oil supplied to the heating zone by the liquid level of the oil maintained in the distilling zone and in continuously maintaining a local cyclic circulation of the oil undergoing treatment in the heating zone.

1,632,967. Process for Producing Light Hydrocarbon Liquids. Eugene C. Herthel, Chicago, assignor to Sinclair Refining Co., New York, a corporation of Maine. Filed April 4, 1925. Serial No. 20,641. 3 Claims. (Cl. 196—48.)



1. A method of cracking heavier hydrocarbon oils for the production of light hydrocarbon oils containing very light constituents in high concentration, which comprises distilling heavier oil under pressure at a cracking temperature, subjecting the vapors of the cracked oil to a refluxing operation, and introducing fresh oil into the refluxing operation in direct contact with the vapors therein at a rate greater than about 190 per cent of the rate at which distillate is taken off.

An Important Year to the Oil Industry

1859

Born the same year that oil was discovered, the Roots principle has developed, parallel with the oil industry, until Roots units now perform many important functions in manufacture and distribution of petroleum and its products. ¶ In handling water or oil, hot or cold, at pressures up to 200 feet head, Roots Liquid Pumps give trouble free service at high efficiency. Roots Gas Pumps solve the problem of exhausting still vapors and pumping the volatile petroleum fractions.

Roots Positive Displacement Meters represent the best value in the accurate measurement of gases, and Porportional Pumps meet the need for pumping two or more liquids in a definite ratio. ¶ The year 1859 is important as the beginning of oil development, but it is also important as the beginning of mechanical development that has been so valuable to the oil industry. ¶ Our engineering department will be glad to cooperate closely with you.

ROOTS The P. H. & F. M. ROOTS CO. ROOTS

CHICAGO Peoples Gas Building · CONNERSVILLE, INDIANA · NEW YORK 120 Liberty Street

KREISCKER

RECTIFICATION OF UNSTABLE GASOLINE

(Continued from Page 228)

mum efficiency with as low a pressure on the evaporator as possible, and when the cut of naphtha used is low enough to unite with lighter series of gasoline.

Both the endpoint and the recovery can be manipulated by methods employed in ordinary absorption plants. Practically no vapors escape from the rundown tank.

Operations closely watched in the sulphur fields of Ohio showed that the presence of sulphur in raw gasoline does not handicap the operation of the blending plant. The finished product is always 25 plus—Saybolt.

The result of rectification is shown in charts 1 and 2. The effect of pressure and temperature is shown in charts 3 and 4. The high endpoint as shown in chart 4 was desired by the manufacturer.

Summary of Results

The accompanying table summarizes the three compression installations.

The block graphs (Figure 4) show the rearrangement of series that took place in two different installations. These diagrams show that the percentage distilled over between the initial and 100 degrees Fahrenheit has been considerably diminished in both cases. The percentage distilled over from the initial of naphtha to the endpoint of the finished gasoline has been decreased also. The percentage distilled over from 100 degrees Fahrenheit to 220 degrees Fahrenheit has been increased. We derive from this that we have obtained the rearranged series of pentane, hexane and heptane, or products which have the same characteristics, out of the light fractions of gasoline, presumably propane, butane and light fractions of naphtha, heptane to decane.

Due to the fact that the blend was hot, refractionation will take place only under the heat of not less than 100 degrees Fahrenheit at atmospheric pressure. Therefore a stable gasoline that will remain stable under ordinary storage conditions was produced without losing or driving off the light series of the raw product.

A negligible amount of vapors escape from the rundown tank. It is mostly propane that, being driven off at a high temperature, does not carry with it any stable hydrocarbons, for those hydrocarbons at the same temperature are being absorbed or united with the light fractions of naphtha. These propane fractions are not reabsorbed into the finished product, due to the fact that the next higher to propane series became "occupied" with low series of naphtha.

It is an established fact that a small per centage of propane in gasoline considerably increases its vapor tension, consequently raising the gravity.

A good deal of stabilization is actually being done through driving off the extreme propane series; from this we may derive an explanation of the unreasonably small amount of naphtha used to bring down the gravity of the raw gasoline.

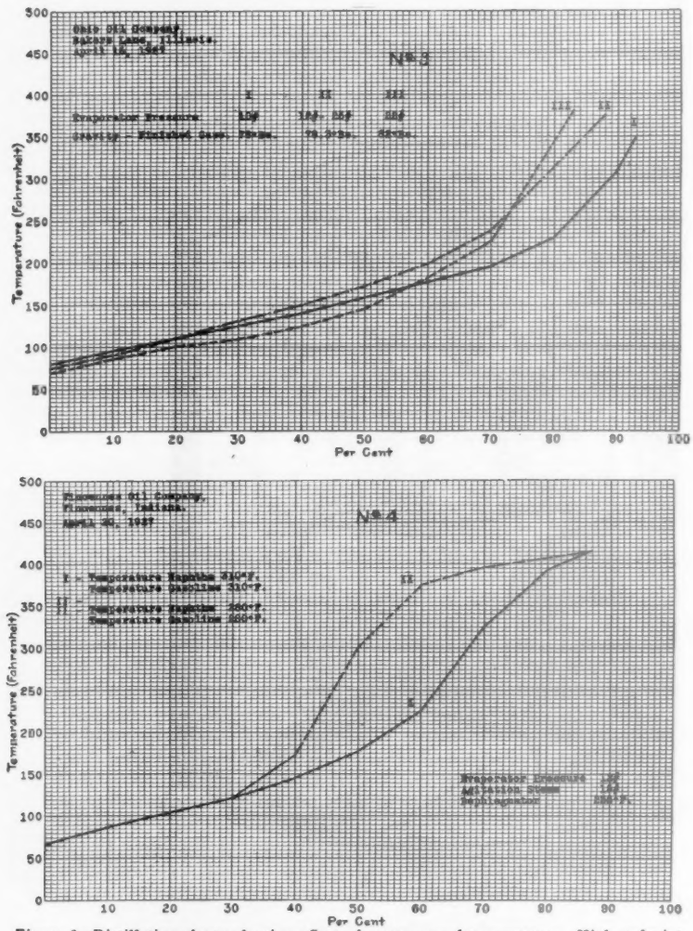


Figure 3—Distillation charts showing effect of pressure and temperature. High endpoint as shown in Chart 4 was desired by manufacturer.

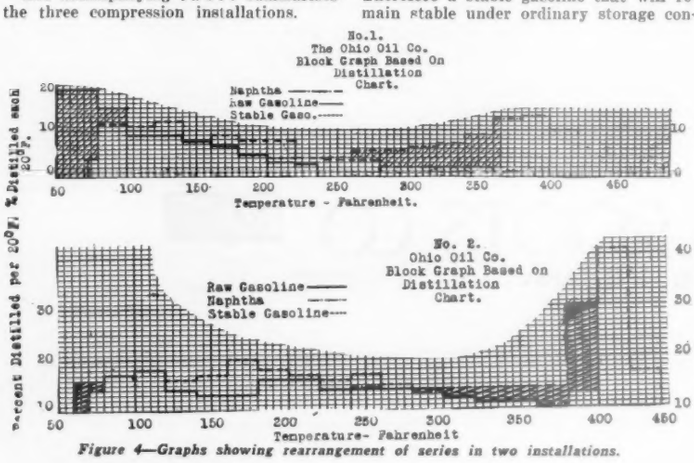


Figure 4—Graphs showing rearrangement of series in two installations.

EASTERN GASOLINE WEAK; RETAILERS CUT PRICES

(Continued from Page 226)

paratively free from the demoralizing influences which have depressed gasoline. Yet one practice seems to have grown up which has been of sufficient importance to have called for action on the part of town and county officials in this part of the country. This is the practice of reselling lubricating oil which has been drained from crank cases. This has been reflected somewhat in retail sales. Efforts are being made, however, to put an end to this.

The demand for lubricating oils has been holding up extremely well so far as the motor trade is concerned. The industrial department, however, is dull. This is doubtless due in part to a seasonal lull in manufacturing operations. However, extreme dullness is said to prevail in some lines which cannot be attributed entirely to seasonal influences. The textile demand for lubricants has been suffering for some time, but farsighted lubricating oil dealers are pushing sales in factories which make rayon and other silk substitutes, for which there is now a tremendous demand.

The refinery market for lubricants is holding up well. Western Pennsylvania refiners are not willing to make concessions and Atlantic Seaboard refiners are regulating their policies accordingly.

Paraffin Wax

The wax market is irregular. The demand for crude wax is especially good, but refined wax for domestic markets is stagnant. Prices are generally unchanged.

Petrolatum

The petrolatum market is more active but prices are unchanged. Snow white and lily white are in better demand. Until dark green shows some price improvement, however, not much is expected of the other grades. Dark green is available at 1¾ cents a pound in barrels.

The Export Market

The export market was less active during the week. While no bulk exports went out from this port, several goodsized orders were booked covering gasoline and kerosene for England, France, Holland and Belgium. Italy is no longer buying here, but is said to have placed some orders with Gulf refiners for bulk cargoes.

Lubricating oil is in good demand in barrels. Cased exports are also fairly large, due to Australian buying.

Crude wax shipments continue a feature of the wax export market. During the week ended July 20 they were estimated at 1,602,175 pounds, against 1,391,275 pounds for the week ended July 13.

Petroleum asphalt is also in demand for export. Approximately 5,000 tons went to Central Europe during the past week. Total shipments exceeded 6,000 tons.

Petroleum Exports

The following table shows principal exports of petroleum and petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted:)

	Week Ended		
Gasoline—	July 20	July 13	July 6
Bulk	.....	14,676,230	5,624,250
Cases	771,750	655,500	1,296,160
Kerosene—			
Bulk	.....	3,213,714	1,646,400
Cases	1,534,830	2,089,770	1,213,990
Lubricating oil—			
Bbls.	1,399,650	1,183,150	818,950
Cases	457,610	129,460	188,840
Lubricating greases—			
Bbls. (lbs.)	267,750	846,000	.....
Paraffin wax—			
Bags (lbs.)	498,520	580,360	943,800
Bbls. (lbs.)	1,602,175	1,391,275	1,259,225
Petroleum asphalt—			
Bbls. (tons)	6,132	2,426	1,262

The foregoing figures include all shipments of 500 bbls., 1,000 cases, or more.

Oil Tanker Market

The oil tanker market has turned dull. New fixtures are largely for foreign routes.

The following new fixture is reported:

Tanker Lucigen, gasoline, August loading, Gulf to United Kingdom-Continent. 27s.6d.

Tanker rates range from 30 to 35 cents a barrel for Gulf to Atlantic trade and 90 to 95 cents for Atlantic to Pacific trade, according to brokers. In the first trades, business is dull, but in the other no ships are being offered.

Oil Receipts Heavy

A heavy movement of petroleum in tankers to the Atlantic Seaboard is reported. Arrivals the week ened July 20 amounted to 4,630,000 bbls., a daily average of 661,000 bbls. This compares with a total of 5,717,000 bbls. and daily average of 817,000 bbls., for the week ended July 13.

Receipts from the Gulf Coast totaled 3,199,000 bbls., a daily average of 457,000 bbls. A good part of this is said to have consisted of Seminole crude, being rushed to eastern refiners for immediate running. Receipts from California continues fairly heavy. During the week ended July 20 they totaled 598,000 bbls., or a daily average of 85,000 bbls.

Imports for the week were 833,000 bbls., a daily average of 119,000 bbls., of which Mexico contributed a daily average of 78,000 and South America 41,000.

Petroleum Receipts

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the past three weeks; also monthly record for the past 12 months (figures in barrels:)

	Week Ended		
	July 20	July 13	July 6
Gulf Coast	457,000	608,000	279,000
Pacific Coast	85,000	59,000	81,000
Mexico	78,000	75,000	52,000
South America	41,000	75,000	72,000
Total	661,000	817,000	484,000

Daily Averages by Months

	Gulf	Pacific	Mex.	S. Am.	Total
1927—					
June	378,000	118,000	68,000	47,000	611,000
May	332,000	58,000	91,000	53,000	534,000
April	388,000	93,000	69,000	61,000	611,000
March	345,000	103,000	36,000	81,000	565,000
Feb.	379,000	89,000	40,000	48,000	556,000
Jan.	362,000	73,000	49,000	61,000	545,000
1926—					
Dec.	363,000	57,000	49,000	61,000	530,000
Nov.	335,000	62,000	56,000	40,000	493,000
Oct.	270,000	71,000	61,000	43,000	445,000
Sept.	299,000	98,000	63,000	58,000	518,000
Aug.	320,000	61,000	71,000	46,000	498,000
July	360,000	66,000	115,000	36,000	577,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

CHICAGO MARKET OPENS WEEK QUIETLY

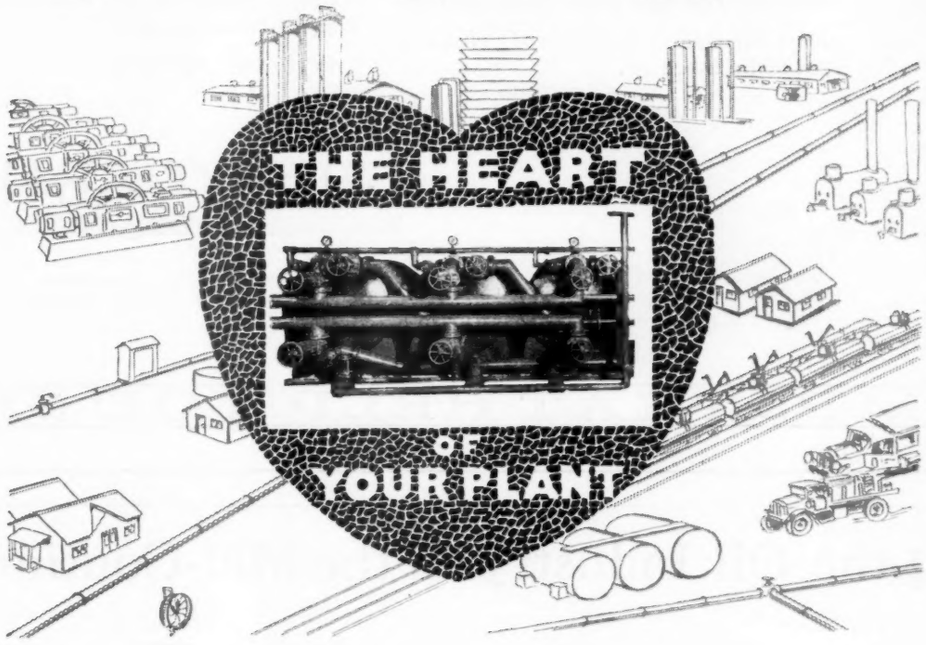
(Continued from Page 226)

cents for the treated oil. The oil is desirable for certain purposes and the demand is at least equal to the present production. Refinery fuel oil of the same gravity can be bought at 85 to 90 cents and many users of the Arkansas product have changed to refinery oil.

There is about the usual summer consumption of fuel oil. The railroads are using the regular quantities according to reports and while there is some falling off in the industrial demand it is largely seasonable. A very large part of the actual buying at present is for small amounts and the orders are split up between concerns more than would be the fact if the users were making contract for periods or buying in larger quantities. Some of the smaller concerns are adding to their list of customers and paving the way for a larger business while some of the older organizations complain of a lack

CHARCOAL

Process of Gasoline Recovery



The *heart* of a natural gasoline plant — the plant proper — often represents less than *one-fifth of the total investment.* Yet the financial success of the plant is largely dependent on the efficiency of this unit.

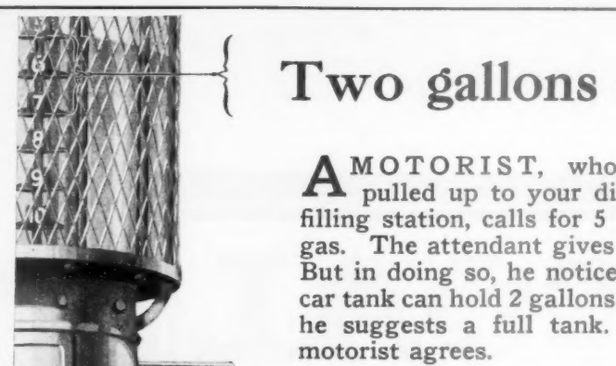
That's why the heart of your plant should be the most efficient unit obtainable.

That's why it should be a Charcoal Plant

GASOLINE RECOVERY CORPORATION
CHARLESTON, W. VA.

TULSA
423 Wright Bldg.

LONG BEACH
Box 321



Two gallons *more* you can sell him

A MOTORIST, who has just pulled up to your distributor's filling station, calls for 5 gallons of gas. The attendant gives it to him. But in doing so, he notices that the car tank can hold 2 gallons more. So he suggests a full tank. And the motorist agrees.

If the pump is the new G. & B. Model T-179 Visible, the extra two gallons can be delivered *immediately, increasing the sale from 5 to 7 gallons.*

Easy? Speedy? Profitable? Nothing could be more so.

Starting delivery always with a full 10 gallons in the bowl, this new G. & B. T-179 Visible enables your* distributors to boost gallonage. To sell those extra two, or more gallons without taking the time and trouble of refilling the bowl.

This is the G. & B. PROGRESSIVE METHOD OF DELIVERY. You find it in the new Model T-179 Visible, mechanical measure type. Also in the Model T-176 Visible wet hose sight measure type.

Write for bulletins.

GILBERT AND BARKER MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD MASS. U.S.A.

**Over 1200 oil marketers are using G. & B. equipment.*

PUMPS THAT HELP YOU SELL

Serving the Oil Industry in the Mid-Continent Field

STATEMENT

The First National Bank
OF TULSA

At the Close of Business June 30, 1927

RESOURCES

Loans		$12,739,724.83
Overdrafts		3,561.48
U. S. Bonds to Secure Circulation		25,000.00
Stock in Federal Reserve Bank		75,000.00
Bank Premises		1,250,000.00
Furniture and Fixtures		100,000.00
Other Real Estate		19,032.84
Five Per Cent. Redemption Fund		1,250.00
U. S. GOV. BONDS	$4,443,300.00	
OTHER BONDS & WARRANTS	894,768.26	
CALL LOANS, NEW YORK	3,000,000.00	
CASH AND SIGHT EXCHANGE	6,490,062.94	14,828,131.20
TOTAL		$29,041,700.35

LIABILITIES

Capital	2,000,000.00
Surplus and Undivided Profits	618,547.87
Circulation	25,000.00
DEPOSITS	$26,398,152.48
TOTAL	$29,041,700.35

OFFICERS

G. R. McCULLOUGH	Chairman, Board of Directors
R. P. BREWER	President
A. E. BRADSHAW	Executive Vice-President
C. T. EVERETT	Vice-President
O. A. GRIFFEY	Vice-President
C. W. BENEDICT	Vice-President and Cashier
ROSCOE ADAMS	Asst. Cashier
F. L. ALBAN	Asst. Cashier
B. F. BARNETT	Asst. Cashier
F. S. HUGILL	Asst. Cashier
E. M. CARTER	Asst. Cashier
E. W. POLLOCK	Asst. Cashier

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of immediate business. There has been no change in refinery prices and as the sellers are held to a very small margin above the refinery prices by the direct selling of refiner sales representatives, there is no change here.

The 24-26 gravity refinery oil is being offered at 95 cents by most with some shading of the price occasionally and the lower gravities are offered at 90 cents with one or two quotations found of 89 cents and very occasionally of 87½ cents. The cost of these grades is held at 85 cents and this is really bottom. Some of the largest operators report that they have never before found it so difficult to secure a little lower price for a really large order as now. Possibly a buyer who wanted a considerable number of cars and could give immediate instructions might find a refinery who would cooperate to land the business by making a little lower price. It has been done but such sales are few and everybody seems to feel that the less said the better in such cases. It will not be long now until the regular continuing industrial demand will be added the usual seasonable increase that comes with cooler weather and the resumption of work in many plants that are closed for one reason or another or are working on a reduced schedule. Then will come the added demand for oil for heating and this is growing in the industrial as well as the domestic fuel oils.

Lubs Firm

Lubricating oils are being very largely consumed and the demand is reported to be very good by refiners and compounders as well as the distributors. Prices with refiners are being held but there is a great deal of complaint regarding the prices to large users. The representative of a large refining organization that has specialized on lubricants and has a nation-wide reputation for its product was recently offered a large contract at the price of the other fellow. When he saw the other fellow's price he told the buyer to sign up with the other fellow, they were out of it. No change is expected until it comes time for the demand to change to the winter oils.

Tank Wagin Irregular

The tank wagon situation is unchanged so far as the regular scale of prices is concerned. There has been a renewal of hostilities at Peoria where the price disturber hung out a sign of "8 gallons of Gasoline for $1.00." The regular companies reduced the price to 10 cents tank wagon and 12 cents service station. There must have been a number of others waiting for an excuse to cut when a single pump owned by a concern that only uses gasoline as a bait for trade in its other lines can bring about such a reduction. Grand Rapids has also developed a little price war and the result is a cut of 1.7 cents.

NORTH AND WEST TEXAS

(Continued from Page 46)

No. 1 J. H. R. Logan was temporarily abandoned at 3,500 feet. Stearns & Streeter's No. 1 W. A. Howe was dry and abandoned at 3,974 feet.

Haskell County

Western Exploration Co.'s No. 1 Scott was dry and abandoned at 2,003 feet.

Howard County

Magnolia Petroleum Co.'s No. 4 Kelly Chalk made 20 bbls. initial after a 40-quart shot at 1,611-33 feet; total depth 1,635 feet. Pure Oil Co.'s No. 1 Hooks made 28 bbls. initial at 1,812-47 feet.

Jones County

Locations were abandoned by Phillips Petroleum Co. for No. 5 J. R. Walling and for No. 1 E. Howell.

Mitchell County

California Co.'s No. 4 J. J. Handley, Lease 1, swabbed 100 bbls. the first 16 hours after a 360-quart shot at 2,890 to 3,075 feet.

Pecos County

Seventy-Five Oil Co.'s No. 1 F. A. Perry was dry and abandoned at 3,006 feet. John Droppleman's No. 1 Mrs. L. Hershenson was dry and abandoned at 3,802 feet. The well had a small show of oil at 3,707 feet and a hole full of sulphur water at 3,793 feet.

Taylor County

Humble Oil & Refining Co.'s No. 1 Mattie Jacobs was dry and abandoned at 2,868 feet.

Upton County

L. E. Hultz and associates' No. 1 D. C. Giddings is being plugged and abandoned at 3,769 feet. Tidal Oil Co.'s No. 1 Burleson topped the pay at 1,958 feet and was bottomed at 2,042 feet. The well was given a 40 and 40-quart shot at 1,965 to 2,042 feet and flowed 15 bbls. while being cleaned out. On July 9 it was shot at 1,985 to 2,005 feet and swabbed 90 bbls. On July 14 the formation at 1,965 to 1,985 feet was shot with 50 quarts and the well swabbed 60 bbls.

OKLAHOMA FUEL MARKET WEAKENS

(Continued from Page 41)

dustrial users who in the past have relied on fuel oil or coal.

Refiners have felt this competition for some time although several of the large projects are not yet completed. Oklahoma fuel oil and that of other Mid-Continent refining areas is sold over a wide area outside the southwestern states mentioned. But in this "local" demand in which freight rates are relatively low, that is most desired by the refiners. Many operators have been able to develop a large intrastate business and obtain prices in which they absorb the freight rate advantage under the interstate shipments. This local business has been coming from large and small industrial plants, power plants and various public utilities.

Gas Replacing Fuel Oil

The widening distribution of gas threatens all of this local business with the execption of the railroads which are the largest class of buyers. Kansas City is one of the points which is to have industrial gas. The industries in that city and vicinity have been one of the largest buyers of fuel oil, the Kansas refiners benefiting especially from this market.

Indicative of what gas can do to the fuel oil market, is the situation which has prevailed in the north Texas area for several weeks. A large gas line connection was completed in the spring extending from the Panhandle as far south as Wichita Falls. The gas was available for industrial users and among the customers were several refiners in the north Texas area which previously had been using their own fuel oil as plant fuel.

Before the industrial gas became available north Texas refiners enjoyed a favorable fuel oil market. Most of the fuel oil was absorbed locally and refiners were able to maintain prices—protected by the freight rate advantage—which were from 10 to 25 cents higher than surrounding groups. The advent of the gas, however, brought a fuel oil surplus over requirements in that territory and the market now is established on an interstate rather than a local basis. Prices are now lower than any point in the Mid-Continent Field.

Gasoline and Naphtha

When several refiners returned to 7-cent quotations on 58-60 437 U. S. Motor gasoline, they also reduced their other grades fractionally.

Sales of 60-62 400 end point gasoline were made as low as 7⅛ cents, with a price range up to 7⅜ cents. The aviation 64-66 375 market varied from 7¼ to 7½ cents. The higher gravities are not active, regardless of price. The higher prices for U. S. Motor last week resulted in greater activities for the 450 endpoint gasolines. These grades were available from 6½ to 6¾ cents. Charges were heard that a few refiners were selling gasoline presumably of 450 endpoint which in fact met 437 endpoint specifications. Naphtha prices were not changed during the week.

Natural Gasolines

A buying spurt centering in Tulsa last week brought general advances in Oklahoma, Kansas and North Texas natural gasoline quotations. The demand was especially active for Grade A. This is the most stable of the natural gasolines and is desired by both refiners and jobbers for summer blending. This grade was firm on Tuesday at 5 to 5⅛ cents. Other grades were moving from 4⅜ to 4¾ cents. A considerable quantity of Grade AA was purchased in North Texas last week.

Unless there is a collapse in the refinery gasoline market, the manufacturers expect to maintain a firm or advancing market through August. The buying during the past week did not come in large orders, but was mostly in 1 to 10-car shipments for domestic consumption.

Kerosene and Distillates

No changes developed in the kerosene and distillate situation. Several refiners are accumulating both kerosene and distillate stocks in expectation of a better movement starting next month.

Fuel Oils and Gas Oils

The reduction in fuel oils during the week was 2½ cents on most grades. Refiners explained that this reduction was necessary to meet an 80-cent price in North Texas and an 85 to 90-cent price in Kansas. Buyers found very little material available from Oklahoma refiners for July shipments. Reflecting the reduction in fuel oils, gas oils were also somewhat weaker. Sales of a few cars of the 32-36 grade were made at 2⅝ cents. Buyers who are in the market for large orders, however, were unable to interest the sellers under 2¾ cents.

Wax and Lubs

Sales of wax made during the week showed a one-eighth cent reduction in price. No important changes developed in the Oklahoma lub market.

Late Fields

(Continued from Page 46)

oil in a test in Logan County, about 6 miles east of the Roxana Petroleum Corp.'s big deep sand well. It is No. 1 Rodgers, 990 feet south and west of the center of Section 32-19-3w. The showing appeared in sandy lime at 5,870 feet. At last report the crew was trying to run the 5-inch pipe.

The Louisiana Refining Co. is reported from outside sources to have an 800-bbl. initial producer in No. 1 McElroy, SE cor. SW SE Section 17-5-8, Pontotoc County. It is said to be a Dutcher sand producer.

CALIFORNIA

LOS ANGELES, Calif., July 26.—Pan American's No. 1 Wahl, second well to be finished in the deep Wasem zone, Seal Beach, is making 250 bbls. light oil and 8,000,000 feet of gas from 5,200 feet.

LOUISIANA-ARKANSAS

SHREVEPORT, La., July 26.—Dixie Oil Co.'s No. 8 Fitzsimmons, Section 14-21-15, Pine Island Field, Caddo Parish, bailed in Saturday night making 30,000,000 feet of gas with a heavy spray of salt water and but a slight show of oil, has started flowing oil, and in the 24 hours ending at 7 o'clock Tuesday morning flowed 990 bbls. Production is from the 3,800-foot level.

The Texas Company has killed the oil and gas flow in No.B-13 Noel, Section 14-21-15, completed last week at 3,790 feet flowing 500 bbls. of oil, 500 bbls. of salt water and 10,000,000 feet of gas, and has started drilling deeper. State Line Oil & Gas Co.'s No. 3 Thigpen and Herold, Section 26-18-16, Waskom Field, Caddo Parish, was bailed in Tuesday flowing 12,000,000 feet of dry gas from sand at 900-10 feet.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., July 26.—The Texas Company's No. 1 Beatty, Nicholas Kelly Survey, Caldwell County, 5 miles southeast of Lytton Springs Field, has a showing of oil in the Serpentine at 2,121-79 feet and is setting casing to test.

GULF COAST

HOUSTON, Tex., July 26.—Anderson & Plummer's No. 1 Whitehead in the new northeast section of the Pierce Junction Pool, blew in while being worked over at 4,500 feet and after flowing at the rate of 2,500 bbls. per day for four hours, sanded. It was brought in originally one month ago as a 2,000-bbl. well, but sanded and was being cleaned. It is on the extreme north end of the extension.

The Texas Company has started a wildcat in No. 1 Laffloon, 2 miles north of Sacul, Nacogdoches County, on a tract of 7,000 acres.

The Humble Oil & Refining Co.'s No. 1 Gulf-Dennett in the Kleberg County Pool is heading 125 bbls. per day, Grade A, Coastal crude, in 36 feet of sand from 2,210 to 2,246 feet. A location is being cleared for No. 2.

NORTH AND WEST TEXAS

FORT WORTH, Tex., July 26.—Southern Crude Oil Purchasing Co.'s No. 1 Hendricks-A in section 44, Block 26, Winkler County, a mile north of the pool, was drilling at 2,905 feet Monday or 51 feet below sea level. Gulf Production Co.'s No. 1 Hendrick obtained its big production seven feet below sea level. Southern Crude's No. 1-B, 2 miles south of the pool, is drilling at 2,576 feet.

In Crane County, Gulf Production Co.'s No. 2 Waddell, NE cor., Section 10, Block B-25, topped gray lime at 3,095 feet and found 50,000 feet of gas at 3,105-09 feet.

In Church-Fields Pool Simms & Atlantic's No. 1 University-E, on north end of pool, was brought back flowing 628 bbls. July 23, 598 bbls. next day and 935 bbls. Monday. This greatly increases the prospects for a considerable extension of pool to the north. Independent's east offset flowed 426 bbls. Monday Landreth's total output from eight wells Monday was 6,006 bbls. while six wells offsetting on the north produced 1,119 bbls.

Gulf Production Co.'s No. 18 J. T. McElroy was shot with 160 quarts at 2,809-2,925 feet and was estimated flowing 40 bbls. hourly afterward. The location for Gulf's No. 38 McElroy is NE cor., Section 200, offsetting Landreth's No. 15, and No. 39 is south and west of No. 38. Tidal Oil Co. has also started Nos. 5 and 6 University, offsetting Landreth's Nos. 14 and 15, respectively. Wise & Jackson's No. 1 Porter, east of the field, is fishing tools and bailer at 2,450 feet in anhydrite.

In Pecos County, California company's No. 1 Yates is making 10,000,000 feet of gas and rigging up separator at 1,010 feet in the north extension of the Fry Pool, Brown County, Forrest Oil Co.'s No. 5 Smith estimated flowing 500 bbls. at 1,335-47 feet. Same company's No. 1 A. A. Moore in S. A. & M. G. Survey, flowed 154 bbls. in 12 hours at 1,253-60 feet and was still drilling.

TEXAS PANHANDLE

FORT WORTH, Tex., July 26.—One mile east of the Gulf-Saunders area in Gray County, Empire company's No. 1 Hood, SW SE, Section 33, Block 3, is flowing 190 bbls. per hour after a 460-quart shot at 2,945 to 3,065 feet. It bridged after the shot and was cleaned out and swabbed twice making 130 bbls. the first 40 minutes and is now making 190 bbls. per hour. Skelly Oil Co.'s No. 6 Schafer, NE NW, Section 87, Block 4, Carson County, in semi-wildcat territory between the McConnell and Roxana Pools, flowed 900 bbls. from 11 o'clock Sunday night to 7 o'clock Monday morning, they averaged 50 bbls. per hour the first 24. Gravity tests 43.3 corrected.

EAST CENTRAL TEXAS

MEXIA, Tex., July 25.—The Sims Oil Co. is paying a 10-cent premium for crude in this general territory and has already connected its gathering lines to a number of leases which had been selling to others of the smaller purchasers in the field.

The Amerada Petroleum Corp. abandoned its first test on the Walter farm, Grainer Survey, in Hunt County at 3,268 feet. There was a show of oil in sandy shale at 3,111-49 feet. Casing was set and the formation tested but it developed only salt water.

Magnolia Petroleum Co.'s No. 1 Pickering in Shelby County is reported showing oil in a sand at 2,630 feet and shut down for casing. It is a wildcat 12 miles southeast of Center, the county seat.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers. chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

VISCOSITY OILINESS AND LUBRICATING VALUE

Is it true that oiliness is a property of oil which has no part in determining lubricating value and is not connected with viscosity?—B. F. W.

The term lubricating value is often used as a definite thing, but we know that the true lubricating value of any oil is determined by its behavior in service. The purpose of lubricating oil is to keep surfaces apart so that there will be no wearing. The lubricating oil which permits free movement and little wear is the one having a high value. Viscosity is the most important characteristic of a lubricating oil and is certainly more definite than oiliness.

It is a fact that several oils may have identical viscosities but do not adhere to the same extent to the surface. They do not stick. What is the cause of this is not known and an effort has been made to explain it on the basis of differences in the coefficients of friction. However no conclusive data have been presented to show that the methods for finding such coefficients are accurate enough to establish an unquestionable principle.

We cannot say that a firm film of oil is due more to oiliness than to viscosity. It may be admitted that there appears to be some property of oils that aids in lubrication which cannot be explained by viscosity, yet such differences are small and cannot be regarded as being of major practical importance.

SCREEN FOR PROTECTING TANK FROM FIRE

Should small or large screens be used on the vent pipes of tanks as a safety measure against fire either from being struck by lightning or from another burning tank?—D. C. C.

When a metal screen is used as a means for preventing the spread of a fire, there is application of our knowledge of the properties of heat and especially of the rate at which it is conveyed or conducted by metals. We know that under normal conditions all substances begin to burn at definite temperatures which are known as kindling points. If the temperature of a burning substance is lowered below the kindling point the flame will be extinguished. When a substance is burning, heat is formed faster than it is carried away and the surrounding particles are heated to the kindling temperature. This is combustion.

All metals do not conduct heat at the same rate. Good conductors are copper and brass. The purpose of the screen when used on a tank is to conduct the heat away, that is, to prevent concentration of heat. If the screen should be made of a poor conductor, the heat from a flame would concentrate and the temperature would then mount high enough to reach the kindling point, with the result that ignition would take place on the other side.

Size of the openings or mesh of the screen is not so important as the kind of metal used in the screen. The mesh should be small enough to permit cooling and it appears that the 40 mesh screen is satisfactory for the purpose. One hundred mesh screens have been used but the larger mesh is stronger and considered to give better service.

ELECTRICAL CONDUCTIVITY OF MINERALIZED GASOLINE

Would the presence of lead and other mineral substances in gasoline tend to make them conductors of electricity?—A. F.

It is claimed that the addition of certain salts to gasoline causes them to be conductors of electricity and for this reason reduces knocking. Several different kinds of chemical compounds, both organic and inorganic salts, have been suggested. The compound must be soluble in the gasoline.

Salts specified in a patent are lead nitrate, copper nitrate, metallic phenates, cresolates and carbonates, bismuth triphenyl and ammonion naphthenate. Two examples are given. A solution of 0.5 pounds of copper nitrate in 1 pound of "hydrohexalin" is mixed into 100 pounds of gasoline, allowed to stand a few days, and separated from the yellow liquid impurities. Another solution is one in which 100 lbs. of litharge are dissolved in 500 pounds of cresol, 15,000 pounds of cresol are added and the mixture poured into 100,000 pounds of gasoline, allowed to stand and separated from the sediment.

HEAT EXCHANGERS

In the heat exchangers used in oil refineries could you give me the heat transfer rates usually encountered; also give me the loss in pressure through the tube passages when circulating oil through the exchanger?—B.

There are so many conditions under which exchangers are now used in refineries that this question cannot be answered other than in a general way. There are vapor heat exchangers, vapor and liquid exchangers, residue exchangers, etc. Actual transfer of heat depends upon the physical properties of the oils, vapors and other liquids; also the shape and construction of the apparatus. Transfer rates vary for different classes of service, such as residue (bottoms) to crude oil, kerosene to heavy oil, oil vapor to oil, steam to oil, etc. Many of the same factors involving transfer rates must be considered as also affecting pressure drops. Loss in pressure depends upon the character of apparatus and service. This loss may be very little, say from a fraction of a pound, to quite large, say 35 to 40 pounds.

There is one factor of considerable importance when considering the use of an exchanger, that is, there should be a large volume of oil in circulation for a small drop in temperature. There is no great economy in circulating a small volume for a large drop in temperature.

There is a discussion of heat exchangers in American Petroleum Refining by H. S. Bell, page 156. There are three types of exchangers listed: Tank and coil, shell and tube and double pipe. The tank and coil is quite common, here the hot oil passes through a continuous coil of pipe submerged in a tank, through which the cold flows and is heated, while the hot oil is cooled. The rate of transfer of heat is very low, the surface to volume ratio being low and the velocities, particularly that of the cold oil, being very slow. Coefficients of six to seven B.t.u. are about all that can be expected. Many of the commercial exchangers are of the shell and tube type. By proper baffling and by the use of tubes proportioned for velocities of 1.5 feet a second, transfer coefficients of 35 to 40 B.t.u. have been attained and 15 to 25 B.t.u. usually. Velocities in the double pipe apparatus, with practical pipe sizes, are lower than in the shell and tube exchangers, and the rate of heat transfer is lower.

Exchanger principles and calculations may be found in Principles of Chemical Engineering, by Walker, Lewis and McAdams, pages 142-144.

CORROSION TEST

What is the meaning of the corrosion test in specifications for gasoline and lubricating oils? How is the test made?—D. C. L.

The test is one made to determine the presence of free sulphur or corrosive sulphur compounds. It is important to know whether a gasoline or lubricating oil may contain substances which will corrode parts of the gasoline distributing system and the carburetor, also the rings and cylinder walls.

There are several ways of making the test and full details may be found in Technical Paper 323-A, United States Bureau of Mines. The following is an outline of the method as applied to the testing of gasoline. A strip of copper, brightly polished by mechanical means, is placed in a sample of gasoline and held at a temperature of 122 degrees for three hours. A four-ounce bottle half full and placed in a water bath makes a convenient arrangement. Gasoline passes the test when the copper strip shows no more than a slight discoloration as compared with a copper strip which has not been in contact with the gasoline.

Lubricating oil may be tested in a similar way, or the following: Place a clean strip of mechanically polished sheet copper, about one-half inch wide and 3 inches long in a clean test tube or bottle. Add enough of the sample to be tested to cover the strip. Close the tube with a vented stopper and hold in a bath for three hours at 212 degrees Fahrenheit. Rinse the strip with sulphur free acetone and compare it with a similar strip of freshly polished copper. Discoloration or pitting indicates the presence of corrosive substances in the sample.

VAPOR PHASE CRACKING

What is meant by vapor phase cracking? Is not all cracking done while the hydrocarbons are in the form of vapor?—E. F. Y.

The term vapor phase cracking is intended to be applied to any process in which the oil is first vaporized and then the vapor is decomposed through the action of heat or a combination of heat and pressure. This is the ordinary and practical use of the phrase. Most of our investigations of cracking conditions have been confined to temperatures above 500 degrees Fahrenheit so it cannot be said with certainty just where cracking starts. It appears that some oils begin to crack at lower temperatures than others, however, we have no definite information of cracking taking place below 400 degrees Fahrenheit. While some cracking then may occur at a low temperature, we do know that it is more rapid and more complete at the higher temperatures. It depends very much on conditions, and especially pressure conditions, as to how far we may go in true vapor phase cracking.

The broadest application of vapor phase cracking is probably that used in the artificial gas industry. Liquid products are not desired. The oil is brought to a very high temperature and the maximum conversion to gas is accomplished without the use of pressure. The objection to vapor phase cracking for gasoline production is the presence of large quantities of color-forming bodies and substances which have a very objectionable odor. There is a large quantity of carbon formed and the production of gas is large.

It is not necessary to convert the hydrocarbons to the vapor form before cracking will take place. Most of the commercial units used for cracking are of the liquid phase type. The fact of liquid phase cracking has been demonstrated through the use of a bomb in which the oil was sealed and heated without permitting any vapors to escape. After cooling the oil it was found that light products had been formed. There was a change in odor and the oil ignited at low temperatures. Upon distillation gasoline was obtained.

METALS FOUND IN PETROLEUM

We wish to have a list of the different kinds of metals which have been found in crude oil and would be glad if you will furnish this information?—G. E. N.

All of the common metals have been found in the crude oils of the world. The quantity of mineral matter found in petroleum is very small, seldom more than 0.1 per cent and frequently only a few hundredths of 1 per cent, consequently the metals are present in little more than traces.

Aluminum, sodium, magnesium, iron, nickel, calcium and silicon are usually present in large enough quantities to be easily identified. Copper, cobalt, lead, manganese, phosphorus and tin have been found. Traces of gold, silver and radium have been reported in crudes from Mexico. Vanadium and titanium are additional metals present in some oils.

PARAFFIN WAX AND BEESWAX

Is paraffin wax used to any extent for making part of the combs for beehives?—J. A. C.

Purified or fully refined paraffin wax is used to some extent, when blended with beeswax, for the preparation of the comb foundations used in the honey industry. Beeswax has many distinct properties such as color, structure, odor and action toward chemical reagents and these cannot be confused with the characteristics of ordinary paraffin wax.

It is reported that a paraffin wax has been made from Wyoming crude which resembles pure beeswax. The new wax has been thoroughly tested in the laboratory and commercial trials have been made by firms manufacturing wax articles or using beeswax in the manufacture of their products, including the manufacture of beeswax foundation for the use of apiarists, for which over 1,000,000 pounds is needed each year in the United States. The wax can be supplied odorless or with an odor very similar to that of beeswax.

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Of Interest to Sales Departments

WATER REPLACES FUEL OIL IN POWER PLANTS

The United States Department of the Interior has just issued a summary of statistics showing the growth of the output of electric power plants in the country and the amounts of the various fuels used to generate the power. Water power is gradually forging ahead of coal, oil and gas as a source and now represents 41 per cent of the total. In January of this year water power supplied only 35 per cent of the total.

Because of the relatively low fuel oil prices it was expected that the use of oil would increase but the figures supplied indicate a decrease in the use of oil from 26,500 bbls. daily in January to 16,800 in May. There has been a constant decrease in the use of oil in these plants since the early part of 1924. It is probable that figures over the balance of the year will show some increase in its use month by month for after May the load begins to increase and a greater consumption of all fuels is shown. But considering the month of May alone as an index of the decrease on a comparable basis, this year's figure is the lowest for any May in eight years.

The use of gas is rapidly increasing as may be seen in the comparative daily average below as expressed in thousand cubic feet:

1920	67,500
1921	65,000
1922	74,400
1923	86,200
1924	132,600
1925	127,500
1926	139,500
1927 (four months)	143,500

To show the division in the power sources, the total power generated in May over the United States amounted to 6,515,570,000 kilowatt hours, 2,632,373,000 were supplied by water power and 3,883,197 by coal, oil and gas.

COMPTROLLER RULES IN REGARD TO GASOLINE TAX

A ruling by J. R. McCarl, comptroller general of the Government, has just issued a ruling holding than where gasoline is purchased by a government agency under a contract providing for a fixed price per gallon, with no provision for the payment by the Government of a state tax in addition to the agreed price, the contractor is not entitled to reimbursement of the state tax paid on the gasoline delivered merely because of a note on the contract to the effect that the price therein fixed does not include any tax.

The ruling sustains a previous decision disallowing the claim of the Gulf Refining Co. for $501.35 alleged to have been paid by it to the State of Rhode Island as a tax of 1 cent per gallon on gasoline supplied the commissary store of the Naval Training Store at Newport, R. I., during the third quarter of 1926.

While the contract provided that—"Note: above price on gasoline does not include state tax," this in itself is not to be construed as obligating the United States for the payment of the said tax.

CITE GASOLINE DISTRIBUTORS

The Oklahoma Corporation Commission has cited three gasoline distributors near Oklahoma City for misrepresenting the quantity of the products sold. The state laws require the posting of the tests on the gasoline and kerosene offered for sale, and the commission holds that the tests shown on the board do not correspond to the test results found on samples secured from these stations and run in the state laboratories.

E. D. Graham, state gasoline inspector, said a strict enforcement of the order demanding the display of the inspection boards would be ordered. On July 27 the three distributors will have a hearing before the commission in Oklahoma City.

Short Talks on Specifications

By W. T. Ziegenhain

RELATION OF SPECIFIC, BAUME AND A. P. I. GRAVITY SCALES

Many times salesmen are asked to submit bids on oil contracts in which the specifications include a specific gravity or a Baume gravity instead of the A. P. I. gravity used in the oil industry. A direct relationship exists between these and with one reading given the corresponding reading on either of the other scales can be found.

The weight of any substance compared to the weight of an equal volume of water at 60 degrees Fahrenheit is called the specific gravity of that substance. Since water is taken as the standard it is given a specific gravity of 1. The corresponding reading on each the Baume and A. P. I. scales was arbitrarily taken as 10.

The specific gravity of any substance may be determined whether it is a liquid, solid or gas. There are many methods of determining the specific gravity of these and to detail each method would be of little interest here. The specific gravity of a substance heavier than water is more than 1 and the specific gravity of a substance lighter than water is less than 1. For example the value for iron is about 7.0 while that of wood is about 0.7. The specific gravity of a gas may be expressed as .0001, etc.

Although the specific gravity may be determined for any substance, there was a call for an instrument that could be conveniently and quickly used in the industries to measure the relative gravity of liquids. The Baume hydrometer was adopted and has been used almost exclusively by all industries except the oil industry. The cause for this exception is explained by the fact that practically all other industries deal with liquids heavier than water. The Baume hydrometers used to measure these heavier liquids were carefully standardized because of their wide use.

When the oil industry called for instruments to measure liquids lighter than water, these were supplied but there were relatively few manufacturers and little attention had been paid to the absolute accuracy of this class of hydrometers. In a short time a slight error in the readings on these instruments was found but by that time they had been so widely distributed that it was decided to continue making the instruments as they were and to adopt a new scale to be known as the A. P. I. gravity scale. This was agreed to by the United States Bureau of Standards, the Bureau of Mines and the American Petroleum Institute in 1921. The slight difference between the Baume and the A. P. I. scales can be seen in the following table of equivalent readings as well as the corresponding specific gravity.

Specific Grav.	Baume	A.P.I.
1.0000	10.0	10 0
0.9333	20.0	20.1
0.8750	30.0	30.2
0.8235	40.0	40.3
0.7778	50.0	50.4
0.7368	60.0	60.5
0.7000	70.0	70.6
0.6667	80.0	80.7
0.6364	90.0	90.8
0.6087	100.0	100.9

The complete table can be found in the various petroleum handbooks. A description of the method of taking the A. P. I. gravity of petroleum oils was outlined in the July 17 issue of The Oil and Gas Journal, page 170.

ASSOCIATED OIL HAS FIVE SALES CONTESTS

LOS ANGELES, Calif., July 22.—The sales department of the Associated Oil Co. has started its sales contests for the last half of the year. Reports to date indicate that the contests will be the most successful ever held.

The program provides for five sales contests to extend until the end of the year when the awards to the winners will be announced. The five contests include a district contest, agency contest, coast leadership contest (for direct territory salesmen), industrial sales contest and subleased service station contest.

These divisions indicate the nature of the contests. They provide a chance for leadership for everybody connected with the sales department from the district sales managers down to the individual salesmen. Everyone concerned has been furnished with a booklet detailing the rules of the contest.

A sales manager cup will be given to the winners of the district and agency contests. Winners of the individual contests will be given cash bonuses. These cash prizes will be awarded to the five leaders in each group.

Reports covering the status of the contests will be announced monthly through a new publication of the sales department to be known as "Motormates." This publication which is to be gotten up in newspaper style will give the last "dope" on all phases of the contests. Special attention is to be given to "ethyl gasoline" which is now being sold by the Associated company.

USE NATURAL GASOLINE AS FUEL IN FARM HOMES

By closely fractionating the lighter ends in natural gasoline, a "bottled gas" is being made for use on farms for cooking. The product is a gas at normal atmospheric temperatures but is held as a liquid under pressure. It is sold in five-gallon steel drums and because of the narrow distillation range all of the contents of the drum will vaporize with a decrease in pressure at the burner. The system provides all of the conveniences of natural gas, removes the drudgery of wood and coal fires and is safer than most gasoline stoves as the fuel supply may be removed from the stove.

Two drums may be hooked to the supply line and as one is exhausted it can be replaced with another without interrupting the operation of the stove. The extent to which this field could be developed as an outlet for natural gasoline is questionable because the gallonage would be relatively small but as this product is a gas under ordinary atmospheric conditions, it could be produced as a by-product of natural gasoline in the stabilizing of natural gasoline. With sufficient equipment to produce it and put it into suitable containers a natural gasoline manufacturer could probably get a price well above the cost of making it. Prices have been quoted at 60 cents a gallon.

In the natural gas areas 1,000 B.t.u. gas sells at 57 cents per 1,000 cubic feet. Coal and wood vary in price considerably but in general will compare favorably with natural gas. As the new product would find its best field in the Midwest away from the natural gas areas it would have to compete with coal and wood.

CALIFORNIA STANDARD TO USE NEON LIGHTING

The use of the Claude Neon method of lighting has been given prominence in the lighting of filling stations through the signing of a contract by the Standard Oil Co. of California and the Electrical Products Corp. of California whereby all of the Standard's stations will be illuminated and ornamentally outlined with these lights. Neon is an inert gas and when a trace of it is present in a vacuum tube equipped with electrodes it gives off a very distinctive pink glow.

In construction, the lamp differs from the ordinary lamp because it has no metallic filament. The light is not the result of heat generated by the resistance of the filament, but is due to the ionization of the gas. In the past, use of this form of lighting has been limited to small ornamental signs.

Although there are other inert gases that may be used to give a variety of colors and degrees of brilliancy, the Neon light has the advantage of operating at lower voltages. Another light recently developed for illuminating purposes is the Moore lamp, filled with carbon dioxide, and supplies a light that even surpasses sunlight in transmitting the true color of objects.

The use of various lighting effects at filling stations and in advertising is increasing rapidly and is proving to be very effective. Although various lighting arrangements are in use in the filling stations throughout the country, it is understood that this is the first large adaptation of the new lighting system to service station illumination.

POTTERIES EXPERIMENT WITH OIL-FIRED OVENS

The resumption of normal conditions in the coal fields and the return to normal prices for coal have resulted in a diminution of interest in oil firing in the Stoke-on-Trent, England, potteries. Many firms which were experimenting with oil have gone back to coal, which seems to be proved cheaper. One firm of sanitary potters was enthusiastic over oil firing last fall and succesfully fired an oven of 21 feet diameter, finding that breakages were fewer and the quality of the ware better. Five firms in Stock-on-Trent are listed as still using oil for fuel, including one large electrical porcelain manufacturing firm.

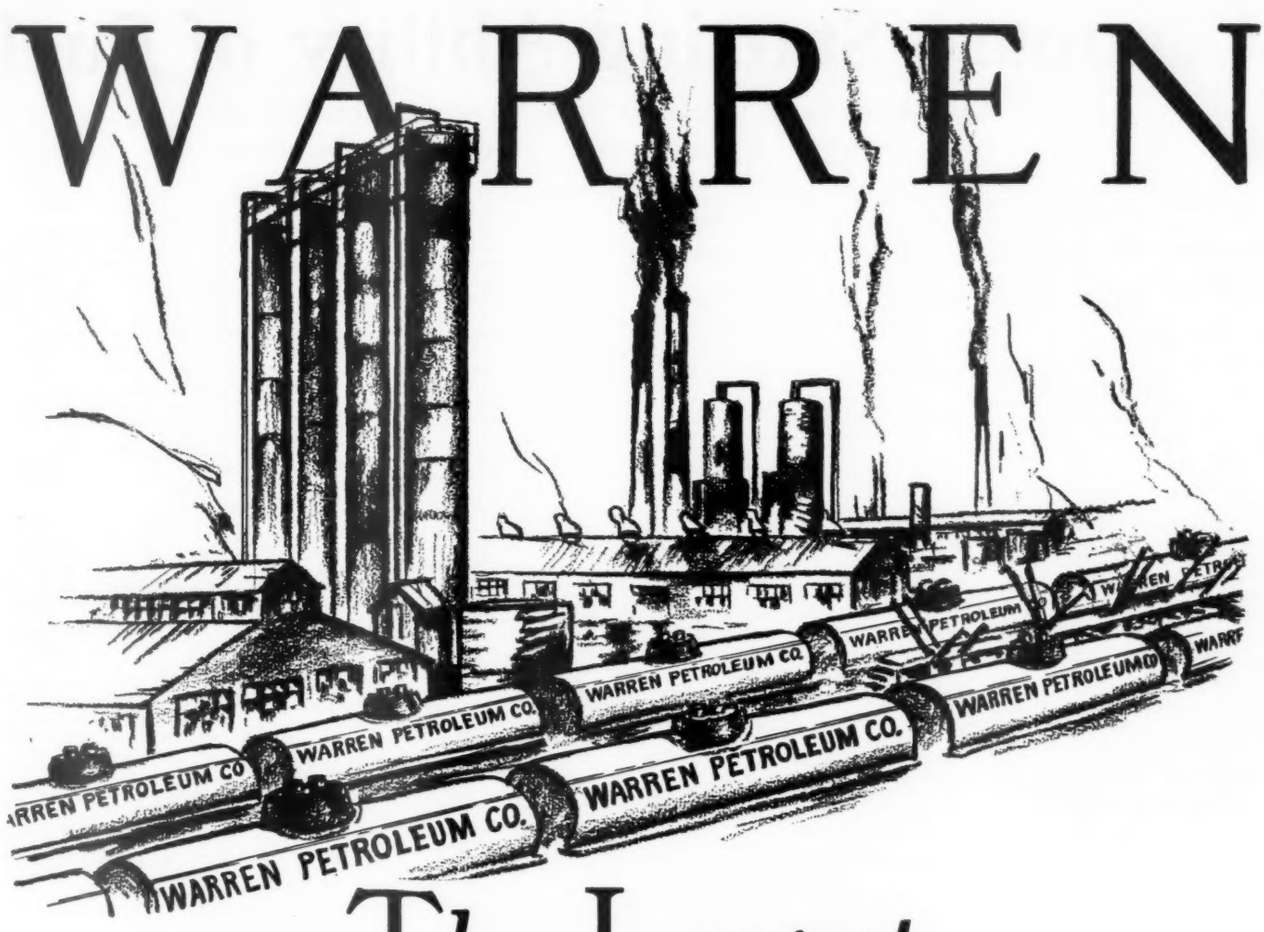
Oil fuel has been found particularly good for electrical porcelain, in the firing of which a uniform, controlled heat is desirable. One firm finds that oil firing dispenses with the service of two of the men required for coal firing. There is considerable saving also in elimination of ashes and debris, a saving in saggars and in the firebrick lining of ovens.

It may be said that oil firing has had a fair test among the potteries and has been discarded except for electrical porcelain and, to a lesser extent, sanitary ware. The actual cost has been the deciding factor. For the present, the firms now using oil will probably continue to do so, but there will be no extension of its use until unusual conditions again compel manufacturers to seek an alternative to coal.

NEW HEADQUARTERS BUILDING

The Marland Refining Co. has completed a $100,000 office building and warehouse at Wichita, Kans., to be used as the headquarters of the western division of the company's marketing department. The western division covers the marketing facilities in the states of Kansas and Colorado. A total of 125 service and bulk stations are now owned by the company in the western division. C. R. Blevins is in charge of the division.

WARREN



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Compare Starting Ability of Fuels

Tests Aside From Volatility Show No Appreciable Difference Between Cracked and Straightrun Gasolines

By D. C. Ritchie
Assistant Scientific Aid, Automotive Power-Plants Section, Bureau of Standards

Information regarding the relative ease of engine starting with cracked and straightrun gasoline was requested at the 1926 annual meeting of the American Petroleum Institute following the presentation of a report on Fuel Characteristics and Engine Starting[1] by J. O. Eisinger and T. S. Sligh, Jr.

Since the Bureau of Standards had made no tests on cracked gasolines in its investigation of engine starting, arrangements were made to supply the Bureau with samples of this type of gasoline from several different sources. Since the volatility of gasoline is the important factor in engine starting, as was brought out in an article entitled Fuel Requirements for Engine Starting, by C. S. Cragoe and J. O. Eisinger,[2] the desired information appeared to be whether cracked and straightrun gasolines of equal volatility would give different starting results. It was decided that this information could best be obtained by determining the lean explosive limits for fuels of these two types.

Saturated Vapor Method

Some of the earliest laboratory measurements of starting characteristics of motor fuels at the Bureau of Standards, described in an article entitled Progress in the Measurement of Fuel Volatility, by T. S. Sligh, Jr.,[3] employed a 500-cc.

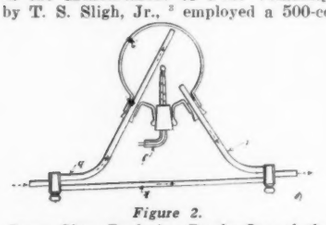

Figure 2.

Pyrex Glass Explosion Bomb—One of the three necks h is an inlet, which conducts the known mixture of air and superheated fuel vapor from the discharge tube of the equilibrium air distillation apparatus shown in Figure 1 into the bomb. The second i is an outlet, and in the third j is inserted a 5-mm. spark gap connected to a spark coil operating on 6 volts. The spark, the duration of which was of the order of 2-5 second, was used in determining the leanest resultant mixture of air and fuel vapor which would produce an explosion. The inlet and outlet tubes are connected to a bypass, k, so that observations can be made under static and dynamic conditions.

glass flask or "bomb" which was provided with a small fan, a spark gap and a specially constructed stopper. Measured quantities of liquid fuel were supplied to this bomb by calibrated capillary pipettes and the minimum quantity of liquid fuel required to produce an explosive mixture of air and fuel vapor at various temperatures was determined. Measurements made with benzol, petroleum ether and aviation fuels at sufficiently high temperatures for complete evaporation indicated an approximate lean explosive limit of 26 air-fuel ratio. Similar measurements were made with numerous motor fuels at lower temperatures to obtain relative data as to starting velocity. With only a portion of the fuel evaporated, it was found almost impossible to obtain reproducible results. Considerably different results were obtained with the same fuel and the same temperature by using various liquids for cleaning the bomb after each explosion. Changes in the width of the spark gap and changes in the voltage applied were found to alter the results. After a careful study of this method it was concluded that the relatively large variations in the results were caused mainly by surface effects. With only a small portion of the supplied liquid fuel in the vapor phase, differences in the amount of fuel vapor adsorbed on the walls or absorbed in the unevaporated liquid remaining on the surface introduce large variations in the observed results.

[1]See American Petroleum Institute Bulletin, January, 1927, p. 143.
[2]See The Journal, March, 1927, p. 353.
[3]See The Journal, April, 1926, p. 393.

A. P. I. RESEARCH

The accompanying paper is based on the Co-operative Fuel-Research work of the Bureau of Standards under the sponsorship of the American Petroleum Institute, National Automobile Chamber of Commerce and the Society of Automotive Engineers The paper was presented at the semi-annual meeting of the latter society and was published in the July issue of the Journal.

It describes an investigation made relative to the starting qualities of cracked gasoline in an automobile engine and compares it in this respect with straightrun gasolines and other motor fuels. The results obtained vary materially from findings in previous tests.

Besides describing an improvement in the method for determining the lean explosive limits of fuel, the paper introduces another interesting question relating to methods, the effect of velocity of flow of the fuel-air mixture and of the length of the spark gap and spark intensity on the lean explosive limits.

Superheated Vapor Method

A more accurate method of measuring fuel volatility, known as the equilibrium air distillation method, was developed subsequently by the late T. S. Sligh, Jr. This method, described by him in an article entitled Volatility Tests for Automobile Fuels, consists essentially in supplying measured amounts of air and liquid fuel to an evaporating coil, maintained at constant temperature, and measuring the rate of collection of unevaporated fuel. From these data and the densities of supplied and unevaporated fuels the ratio of air to fuel vapor by weight can be calculated. A detailed description of the apparatus used has been previously published.

The combination of the equilibrium air distillation apparatus and an explosion bomb offered distinct advantages for determining the lean explosive limits of fuels. By flowing known mixtures of air and superheated fuel vapor through an explosion bomb for some time, it was found that the difficulties with surface effects previously encountered with wet mixtures were practically eliminated.

The discharge tube of the equilibrium air distillation apparatus, shown in Figure 1, was connected to the three-necked Pyrex glass bomb of 200-cc. capacity, shown in Figure 2. Two of the necks were used as inlet and outlet respectively and in the third neck was inserted a 5-mm. spark-gap connected to a spark coil operating on 6 volts. The glass tube containing the connections to the spark gas was wound with asbestos cord at the neck of the flask to give a moderately tight fit and yet not offer sufficient resistance to cause the flask to burst from the explosion of a charge. Safety precautions were taken to prevent back-ash into the equilibrium air distillation apparatus by inserting a fine-mesh copper screen in the inlet neck of the explosion flask. The inlet and outlet tubes were connected to a bypass (See Figure 2) so that observations could be made under static and dynamic conditions.

The method of procedure was to vary the air-fuel ratio supplied so as to determine the leanest resultant mixture of air and fuel vapor which would produce an explosion in the bomb. With the fuel supplied at a definite rate, the rate of air flow was adjusted to obtain the desired air-fuel ratio. The fixed air-fuel mixture was then allowed to flow through the bomb for several minutes and a spark applied. The duration of the spark was always of the order of 2/5 sec. With a rich mixture, the flame was decidedly yellow and propagated slowly. As the air in the mixture was increased the flame lost its yellow cast, became blue and the explosion more violent. Leaning the mixture still further the explosion became less violent until finally the limiting explosive mixture was reached. (See Table 1.) The lean explosive limit was taken as the leanest mixture which would allow the propagation of flame throughout the entire flask. This limiting mixture is not necessarily the leanest mixture which could be made to burn but is the leanest mixture which would explode under the constant conditions of tests.

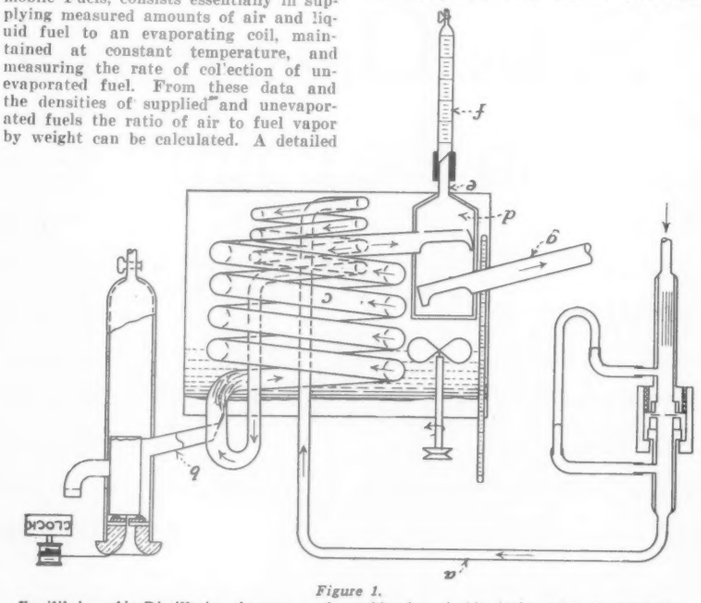

Figure 1.

Equilibrium Air Distillation Apparatus—A combination of this device with the explosion bomb shown in Figure 2 was used to determine the lean explosive limit of fuels in the test work here described. Measured amounts of air and fuel, the former through inlet a, the latter through the inlet b, were supplied to an evaporating coil, c, maintained at constant temperature. The lower end of the evaporating coil delivers into a separating chamber, d, from which a short tube, e, drains the unevaporated liquid into a graduated tube, f, by which the rate of collection of unevaporated fuel is measured. From the data on the amount of air and fuel supplied, and on the densities of the supplied and unevaporated fuel, the ratio of air to fuel vapor by weight can be calculated. The known fuel-air mixture is passed through the discharge tube g to the Pyrex Glass Bomb shown in Figure 2.

TABLE 1—DATA OBTAINED WITH PENTANE AT 20 DEGREES CENTIGRADE (68 DEGREES FAHRENHEIT)

Resultant air fuel ratio	Remarks
24.0-1	Violent explosion
25.0-1	Explosion less violent
26.0-1	Flame propagation slowing up
26.1-1	Flame propagation just travels throughout the flask
26.2-	Flame propagation would not travel throughout the flask

Fuels and Results

The samples of cracked gasoline were supplied through the courtesy of Dr. Gustav Egloff of the Universal Oil Products Co. These fuels were all cracked by the Dubbs process. Fuel A came from a Panhandle crude; B, California crude;

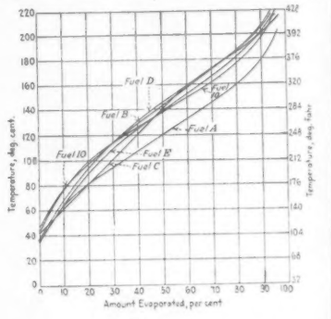

Figure 3.

American Society for Testing Materials Distillation Curves of Cracked Fuels Used in Tests—Fuel A came from a Panhandle crude; B, California crude; C, Smackover heavy fuel; D. Wyoming crude; and E, Mid-Continent crude.

C, Smackover heavy fuel oil; D, Wyoming crude; and E, Mid-Continent crude. Fuels 1-A, 2-A, 3-A, and 4-A were specially prepared and used in the starting investigations of the co-operative fuel-research. Fuel No. 10 is a commercial grade purchased on Federal Specifications for Motor Gasoline. The American Society for Testing Materials distillation curves of the various fuels are shown in Figures 3 and 4.

The results of the first series of experiments which were made with the mixture flowing through the explosion bomb are given in Table 2. It may be noted that lean limits for cracked and straight-run gasolines were found to be identical within experimental error in the case of the experiments at 20 degrees Centigrade (68 degrees Fahrenheit). The rate of fuel supplied was 2 cc. per minute in all of these experiments. Since the air-fuel ratio supplied ranges from 3.9 to 23.4 with the fuel supplied at a constant rate, the air-flow and consequently the rate of flow of the mixture through the bomb varied in these experiments by as much as a factor of 6.

To determine the effect of various velocities of flow through the bomb, without introducing appreciable changes in the vapor composition, three additional experiments were made at 20 degrees Centigrade (68 degrees Fahrenheit) on pentane, with no flow and with supplied rate of 3 and 4 cc. per minute. The results obtained are plotted against the rate of flow and the cross-sectional area of

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		Mineral Seal Oil	Sectional Condenser Dephlegmator
Partially Condense	Hydrocarbon Vapors (Knock back heavy ends)	Crude Oil or Water	Sectional Condenser
Partially Condense	Hydrocarbon Vapors (Knock back heavy ends of bubble tower)	Crude Oil or Water	Sectional Condenser
Heat Exchange	Residuum	Crude Oil	Twin Heat Exchanger 2-Pass Style L Exchanger
Heat Exchange	Hot Mineral Seal Oil	Cold Mineral Seal Oil	Twin Heat Exchanger
Heat Exchange	Hot Gas	Cold Gas	Twin Heat Exchanger Vaneflo Gas Cooler
Cool	Distillates	Water	Twin Heat Exchanger 2-Pass Style L Cooler Bentube Section
Cool	Mineral Seal Oil	Water	Twin Heat Exchanger 2-Pass Style L Cooler Bentube Section
Cool	Residuum	Water	Twin Heat Exchanger 2-Pass Style L Cooler Bentube Section
Cool	Gas	Water	Twin Heat Exchanger Vaneflo Gas Cooler 2-Pass Style L Cooler Bentube Section
Cool	Engine Jacket Water	Water	Bentube Section Jacket Water Cooler
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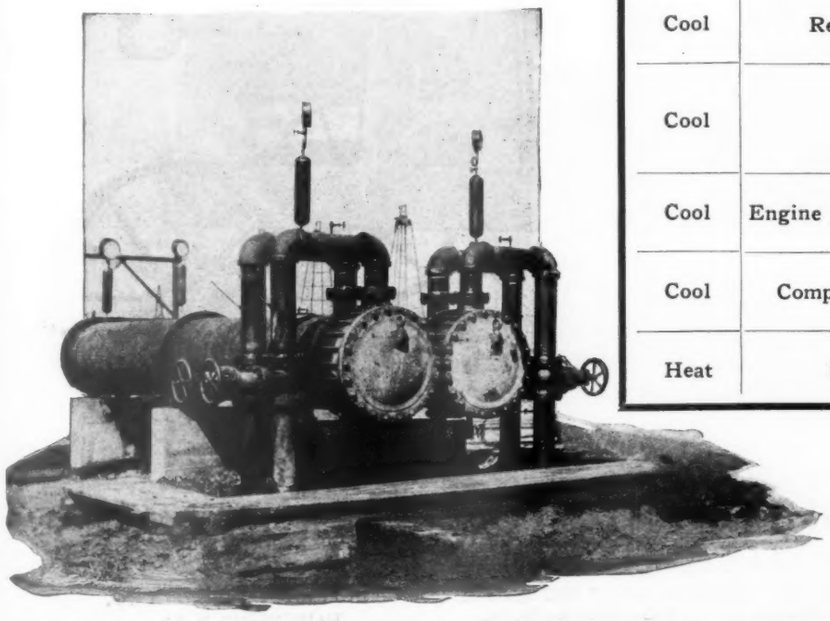

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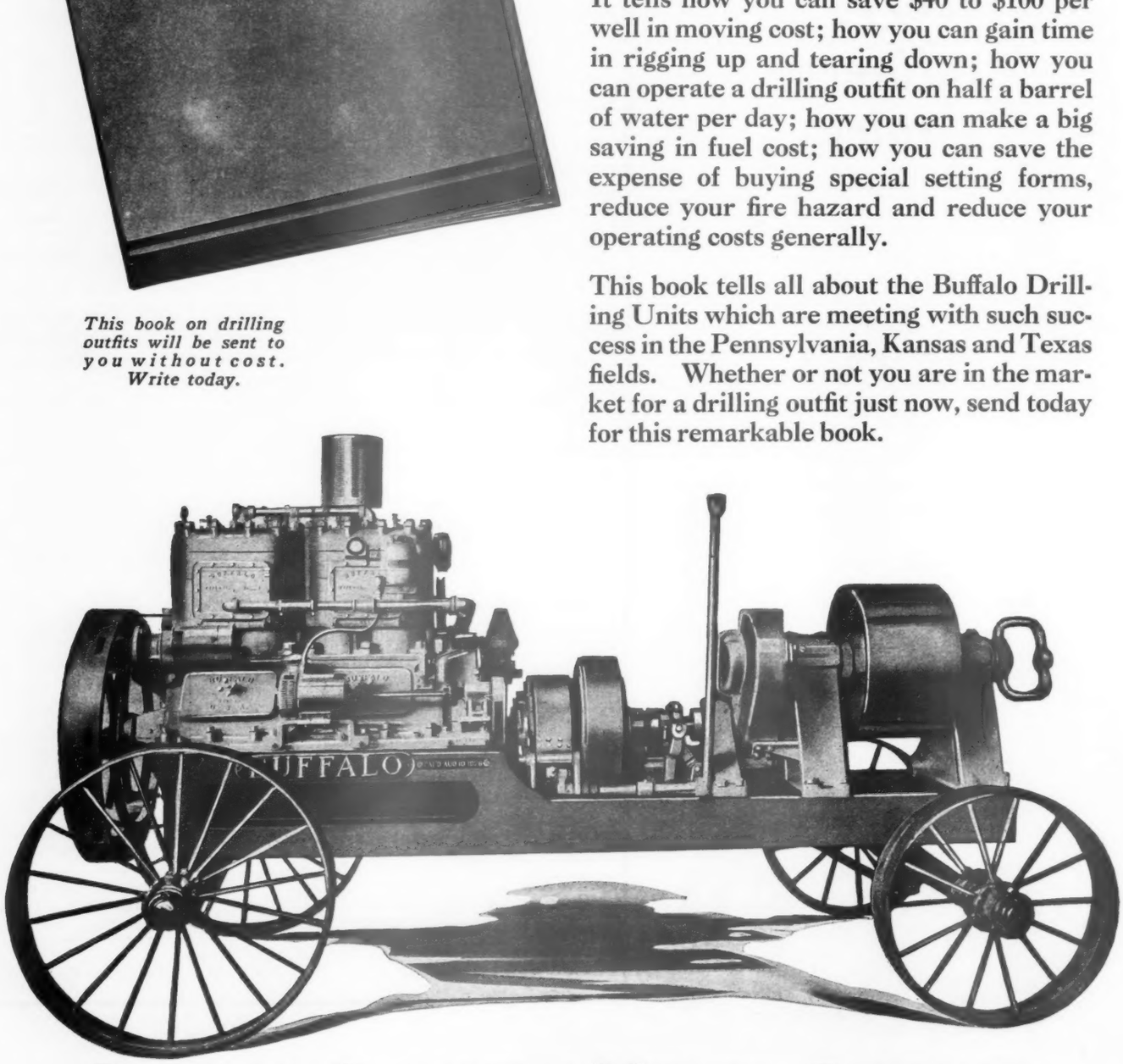

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the bomb. Several auxiliary experiments were made in which the spark gap ranged from 4 to 7 mm. and the voltage ranged from 4.5 to 7.5 volts. No appreciable effect on the results could be attributed to changes of this magnitude in the spark. The results recorded in Table 2 are not strictly comparable because the rates of flow varied considerably. For this reason a second series of experiments was conducted with no flow through the bomb. The results of this series are given in Table 3. The lean limit for static conditions appear to be between 25 and 26 air-fuel ratio for all the fuels investigated.

TABLE 2—DATA OBTAINED UNDER DYNAMIC CONDITIONS

Sample—	Supplied air-fuel ratio	Per cent evaporated by weight	Resultant air-fuel ratio lean limit
Data obtained at 20° Cent. (68° Fahr.)			
Cracked			
A	16.2	69.0	23.4
B	10.5	44.4	23.6
C	12.3	52.7	23.1
D	10.6	45.7	23.2
E	11.9	51.6	23.3
Straight-run			
1-A	12.5	52.2	23.5
2-A	11.1	47.7	23.3
3-A	10.6	45.1	23.5
4-A	10.6	45.3	23.4
Pentane	23.4	100.0	23.4
Petroleum ether	23.1	100.0	23.1
Benzol	22.8	100.0	22.8
No. 10	12.0	53.2	23.0
Data obtained at 0° Cent. (32° Fahr.)			
Cracked			
A	8.8	35.2	25.0
B	6.5	16.2	24.1
Straight-run			
1-A	14.0	55.9	25.0
3-A	2.9	16.9	24.1
Pentane	23.4	100.0	23.4
Petroleum ether	23.1	100.0	23.1

TABLE 3—DATA OBTAINED UNDER STATIC CONDITIONS AT 20 DEGREES CENTIGRADE (68 DEGREES FAHRENHEIT)

Sample—	Supplied air-fuel ratio	Per cent evaporated by weight	Resultant air-fuel ratio lean limit
Cracked			
A	17.8	70.1	25.3
B	11.9	47.0	25.3
C	13.5	54.0	25.0
D	11.8	47.1	25.0
E	13.2	53.0	24.9
Straight-run			
1-A	14.0	55.0	25.0
2-A	12.3	49.1	25.0
3-A	11.8	46.5	25.4
4-A	12.1	47.8	25.3
Pentane	26.1	100.0	26.1
Petroleum ether	26.0	100.0	26.0
Benzol	25.7	100.0	25.7
No. 10	13.2	52.7	25.0

Previous Results

The lean explosive limit for a mixture of hydrocarbon vapor and air at atmospheric pressures and temperatures has been found by numerous investigators to depend to a considerable extent upon the size of the explosion vessel and upon the direction of flame propagation, whether downward, upward or horizontal. The

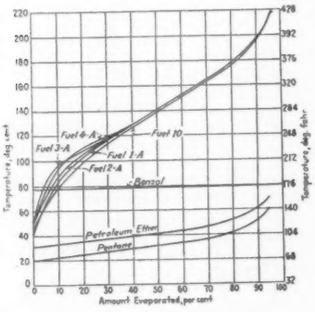

Figure 4.

American Society for Testing Materials Distillation Curves of Straightrun Gasoline and Other Fuels Used in Tests—Fuel 1-A, 2-A, 3-A, and 4-A were specially prepared and used in the starting investigations of the co-operative fuel research. Fuel No. 10 is a commercial grade purchased on federal specifications for motor gasoline.

results of previous observers, given in Table 4, were obtained for the most part under conditions comparable to those described in this paper. The data were reported in terms of per cent by volume and have been converted here to air-fuel ratio for comparison purposes by assuming the gas law, PVM=RT. These results indicate a somewhat leaner explosive limit for the lighter hydrocarbons (See Figure 6) and are in general accord with the results found here for gasoline.

TABLE 4—LEAN EXPLOSIVE LIMIT OF VARIOUS HYDROCARBONS

Fuel—		Per cent by volume	Air-fuel ratio
Methane	5.4	32	(a)
	5.5	31	(b)
	5.8	29	(c)
Acetylene	3.4	32	(c)
Ethylene	3.4	29	(c)
Ethane	3.1	30	(d)
Propane	2.2	29	(d)
Butane	1.7	29	(d)
Pentane	1.4	28	(d)
Benzene	1.4	26	(e)
Toluene	1.4	22	(e)

The following results have been reported for the lean limit of gasoline:

Per cent by volume	Observers	Reference
1.50	Burrell and Boyd	Bureau of Mines Tech Paper 115
2.40	Martini and Huneke	Chemiker Zeitung, Nov. 8, 1926, p. 948
2.94	Biluchowski and Lahocinski	Petroleum, February, 1914, p. 605; Chemical Abstracts, September, 1914, p. 3,115.

Burrell and Boyd obtained practically the same results, 1.5 per cent by volume, with two grades of gasoline of specific

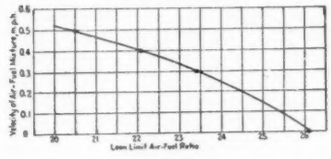

Figure 5.

Graph Showing Effect of Velocity of Flow Through the Bomb on Lean Limit Air-Fuel Ratio—The data on which the curve is based were obtained from three experiments made at 20 degrees Centigrade (68 degrees Fahrenheit) on pentane with no flow and with supplied rate of 3 and 4 cc. per minute. The results obtained are plotted against the air-flow of the mixture past the spark gap. The rate of flow was computed from the volume rate of flow and the cross-sectional area of the bomb.

gravities at 60 degrees Fahrenheit of 0.689 and 0.739. Their results, which were computed on the assumption that the fuel vapor had an average chemical composition equivalent to C_5H_{12}, are equivalent to an air-fuel ratio of about 26 which is in good agreement with the present experiments. Martini and Huneke gave no detailed information as to the experimental basis for the values stated, namely 2.4 per cent for gasoline and 2.7 per cent for benzol. The value reported by Biluchowski and Lahocinski was taken from Chemical Abstracts, the complete paper being unavailable. The limiting mixtures given by these two sets of observers, corresponding to about 12 and 19 air-fuel ratio respectively, are so rich as to suggest that they may have been determined in rather narrow tubes.

Explosive-limit mixtures for a number of different motor fuels have been determined by W. G. Lovell, J. D. Coleman and T. A. Boyd. The results are reported in an article entitled A Laboratory Method of Determining the Starting Properties of Motor Fuels[4] in terms of air-fuel ratio supplied to a metal bomb at various temperatures. By combining their results at 0° Centigrade (32° Fahrenheit) with data obtained on the same fuels with the equilibrium air distillation apparatus[5] it is possible to calculate lean explosive limits as follows:

Fuel No.	2	3	6	7
Air-Fuel Ratio Supplied	7.0	1.4	1.8	8.4
Amount Evaporated, per cent	23.0	6.4	7.8	27.0
Air-Fuel Ratio Lean Limit	31	23	23	31

Data are also presented by Lovell, Coleman and Boyd which indicates systematic differences between the lean explosive limits for cracked and straight-run gasolines of practically identical volatility as indicated by their distillation curves. The limiting mixtures with cracked gasolines were found to be somewhat richer than the corresponding straightrun gasoline. The method used, however, was similar to the saturated-vapor method described in the first part of this paper, and their results are subject to the uncertainties due to surface effects there pointed out. Difference in adsorption on the walls or in solubility of the two types of fuel vapor in the unvaporated liquid remaining on the surfaces would intro-

[4]See Industrial and Engineering Chemistry, March, 1927, p. 289.
[5]See The Journal, August, 1926, p. 151.

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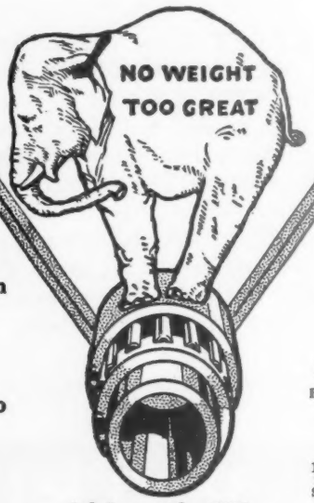

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duce systematic differences in the observed results.

Conclusions

A method of determining the limiting mixtures of air and fuel vapor has been developed and applied to numerous motor fuels. The data obtained indicate that a lean explosive-limit of 25 air-fuel ratio applies to quiescent mixtures of air and vapors of such fuels when ignited at the center of a closed bomb of sufficient capacity. This value was found to apply equally well to cracked and straightrun gasolines. It may be inferred from these results that, aside from volatility, there is probably no appreciable difference between the various kinds of hydrocarbon motor fuel so far as usefulness in starting an engine is concerned.

In the discussion following the paper, R. E. Wilson,[1] who presided as chairman of the session, said that experiments carried out by him and by D. P. Barnard, 4th, seemed to indicate that with a small source of heat, velocity is probably a very serious factor, but that with an adequate source of heat the effect of velocity as related to mixture-ratio would be very much less important. Mr. Cummings agreed that a large heat source such as a flame would probably lessen the difference between the static and the dynamic results, although within the limits of the experiments made, changing the length of the spark gap or the spark intensity did not appear to influence the lean explosive-limit appreciably.

Mr. Wilson also expressed the opinion that the effect of the spark would be greater at higher velocities than those employed. Mr. Cummings agreed that this might probably prove to be the case, although, within the range used in the investigation, the results were independent of spark intensity. Mr. Cummings added that the final values for the lean explosive-limit are those given in Table 3 and were obtained at zero velocity by the superheated-vapor method. The dynamic values by this method cover a considerable range of velocities but no very high velocitities were used.

[1]M. S. A. E.—Assistant director of research, Standard Oil Co. of Indiana, Whiting, Ind.

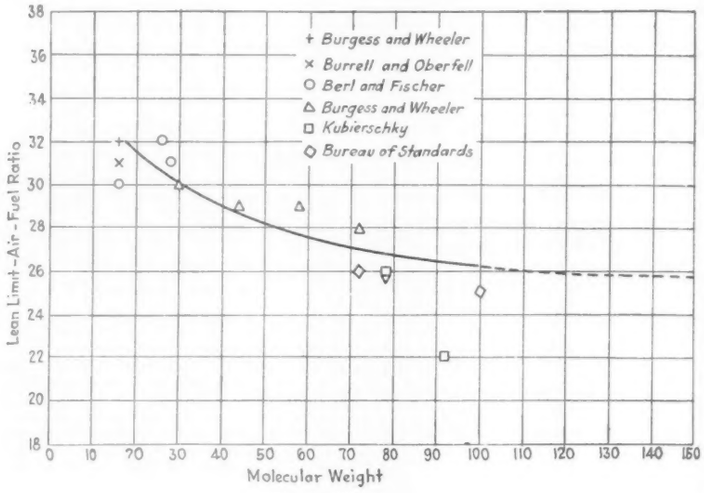

Figure 6.

Lean Explosive Limits of Various Hydrocarbons—In the graph are plotted the data set forth in Table 4, the results of previous observers which were obtained for the most part under conditions comparable to those described in this paper. The data were reported in terms of per cent by volume and have been converted to air-fuel ratio for purpose of comparison. For the same reason points representing the Bureau of Standards findings have been included. The Burgess and Wheeler results designated by crosses are from Safety in Mines Research Board Paper No. 15; those designated by triangles are from the results of the same authors as published in Journal of the Chemical Society (Transactions).

FLOODS SLOWED LOUISIANA-ARKANSAS

(Continued from Page 127)

Trinity horizon also was done in other sections of North Louisiana particularly the Cotton Valley Field where three wells were reported completed around the 4,400-foot level. Two were small gas wells and one dry.

Find Glen Rose High

One of the most interesting discoveries was that in Humble Oil & Refining Co.'s No. 30 Bliss & Wetherbee, Section 15-19-11, Bellevue Field, which encountered the Glen Rose formation (Trinity horizon) at 1,970 feet, the same level at which it is encountered in the Pine Island Field at 2,800 to 2,900 feet. This is a co-operative test in which several large companies are interested and is prepared to make a real geological test.

Fourth Sand in Smackover

Deeper drilling in the Smackover Field of Union County, Arkansas, which already has three prolific producing sands, was given a boom when a "fourth" sand well, Stewart and associates' No. 8 Murphy, Section 9-15-16, was completed flowing 1,000 bbls. of clean 30 gravity oil daily, together with 10,000,000 feet of gas. This new sand is picked up between 2,700 and 2,800 feet.

Wildcat drilling in Union County also brought forth a good 50-bbl. pumping well about 5 miles northeast of the El Dorado East Field. This was Ohio Oil Co.'s No. 1 Crain, Section 1-17-14, completed the latter part of June. Leasing was very brisk in that district but market conditions may prevent a rapid development there in view of the 3,000-foot depth of the sand and the low price of 33 gravity oil.

Leasing Salt Dome Areas

One of the most active developments of the year 1927 has been the intense interest in leasing of acreage around known salt domes of North Louisiana and the hunt for new domes. This was occasioned by the recent bringing in by the Humble Oil & Refining Co. of a well on a salt dome in Cherokee County, East Texas.

Until this year inland salt domes in this State as well as in Texas have been shunned as unproductive but following the bringing in of the Humble well there was a wild scramble among operators to acquire blocks around those domes in North Louisiana. As most of the known salt domes of North Louisiana are in Winn and Bienville Parishes, it was in those parishes that leasing was most active.

With practically all known salt dome acreage quickly leased up, larger companies, including the Gulf Refining Co., the Pure Oil Co. and others immediately started geophysical tests throughout Bienville, Winn, Natchitoches, Grant and Sabine Parishes in an effort to unearth new domes for leasing purposes. To date nothing has developed along this line.

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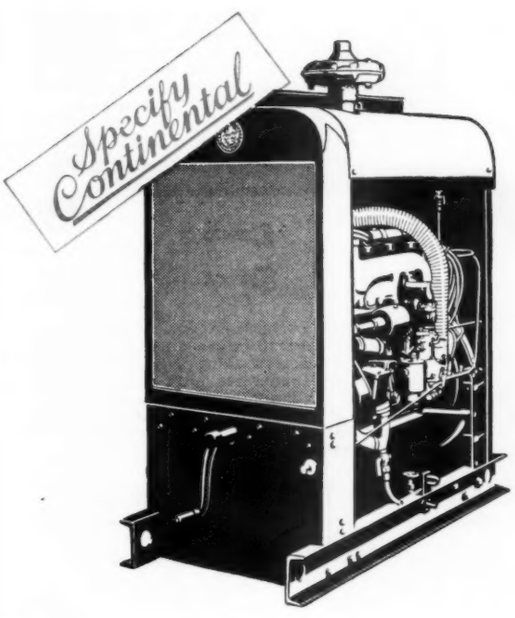

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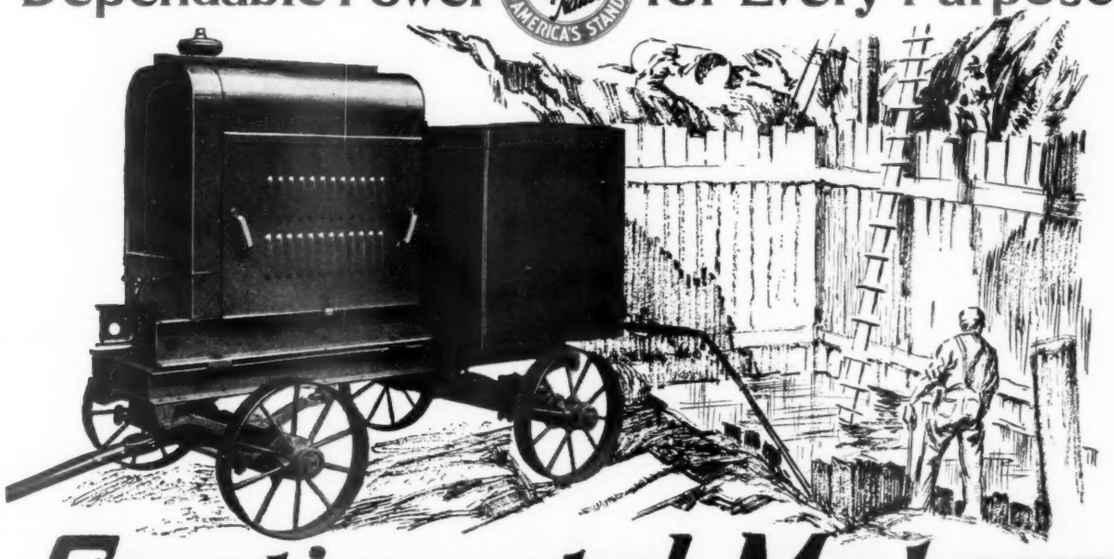

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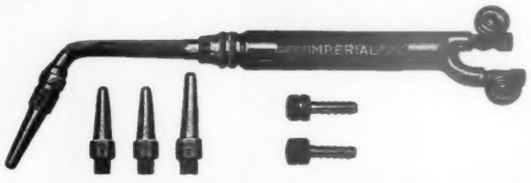

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due to poor inducements for bringing in new production at this time. Some drilling was done the first half of the year but for the most part results were unfavorable. An important exception was on the Sikes Dome in Winn Parish, where the Ohio Oil Co. had a gas blowout at 2,642 feet in its No. 1 McCarty, Section 5-12-1w, the latter part of June. The gas production was estimated at 10,000,000 feet daily.

As there was no casing except a short surface string in the hole, the gas had to be killed and a string of 6-inch cemented. This was done at 2,222 feet. As this is written, the plug has been drilled but the well has not been bailed in to know what it will make.

Developing Gas Areas

Development of gas acreage figured conspicuously the first half of the year. The laying of a trunk gas line from the Waskom gas field in western Caddo Parish and across the line into east Texas to Dallas and the organization of the Dixie Gas & Utilities Co. and the Dixie Pipe Line Co. by the Moody-Seagraves interests of Galveston and Houston, Tex., to build another line from the field to Houston and Port Arthur, serving cities along the route as well as refineries at Port Arthur, stimulated interest in natural gas resources.

The organization of the Dixie Gas & Utilities Co. and the Dixie Pipe Line Co. as another major gas producing, transporting and distributing system, was the biggest deal of its kind consummated in the first six months of 1927. The Moody-Seagraves interests have acquired an extensive proven and semiproven gas acreage in the Waskom and Greenwood districts and a systematic development program is under way to build up an enormous gas reserve. Surveying of the right of way for the new $10,000,000 pipe line project has been started from Waskom to Port Arthur and Houston, and plans are under way for an extension from Waskom to the Carterville Field through the Reserve Natural Gas Co.'s system, a half interest in which was acquired with the Arkansas Natural Gas Co.

These interests, the Magnolia Gas Co. and others are actively bidding for gas production and gas rights in northwest Louisiana and more attention is being given this phase of the industry than ever before.

Crude in Good Demand

Despite the heavy production of crude in other sections of the country which brought about general downward price revisions, the situation in North Louisiana and Arkansas continued very tight during the six-month period. Premiums were and still are being paid by all independent buyers, principally in the Smackover Field, and at that difficulty has been met in getting oil. As the latter half of the year opens three buyers of Smackover crude have been forced to post advances in Smackover crude.

Pipe line companies had considerable difficulty keeping their lines intact and oil flowing during the flood but with few exceptions transportation systems were saved with slight damage. The biggest washout was in the Standard Pipe Line Co.'s main lines at Melville, La., where the six 8-inch lines carrying 80,000 bbls. of North Louisiana and Oklahoma crude daily to the Standard Oil Co.'s Baton Rouge refinery, went out.

Storage Situation Artificial

As the company's other routing by way of El Dorado, Ark., and Grand Lake on the Mississippi was not in operation for a long period due first to flooding of the Grand Lake pump station and later to the fact that all boats for carrying the oil down the Mississippi River were tied up in flood relief and rescue work.

Thus, this oil for a time was backed up into North Louisiana storage, which was reflected in large increases in storage figures for May and part of June. Part of the Standard's lines at Melville have been repaired temporarily and oil is moving through them, and the Grand Lake station, carrying Smackover oil, again is in operation.

Also during the high water, The Texas Company's main 10-inch line and its emergency 8-inch line from Smackover suspended operation due to breaks at the Red River crossing at Shreveport. The Texas Company, however, was able to use the Shreveport-El Dorado Pipe Line Co. line until its 10-inch line was repaired just recently.

A complete summary of field operations and developments in the Arkansas and North Louisiana division is given in tables which follow. The first table shows the number of producing wells and the average production per well on July 1.

Arkansas

	No. Wells	Avr. Prod. (Bbls.)
Smackover first sand	1,227	68.
Smackover second sand	722	81.21
Smackover third sand	335	34.04
Smackover light (Louann)	1,070	10.2
El Dorado (main field)	595	10.8
El Dorado (east field)	111	11.97
Lisbon	347	10.85
Nevada	49	30.
Stephens	267	10.5
Total	4,713	29.73

North Louisiana

Bellevue	231	5.
Caddo	1,473	10.61
Cotton Valley	208	26.
DeSoto	76	19.89
Red River	377	8.16
Elm Grove	43	16.605
Haynesville	596	12.
Homer	474	11.
Urania	367	24.
Pleasant Hill	9	66.09
Total	3,904	19.94
Total both states	8,617	24.835

Big Gas Production

Total initial gas production of wells completed in the division the first half of the year totaled 1,330,981,000 feet daily. Of this amount new wells in the Monroe district accounted for 439,586,000 feet daily. As indicated in following tables this production was from 111 wells.

A summary of completions of the division for the six months by parishes and counties as well as by months follows:

ARKANSAS

Completions by Months—First Six Months of 1927

Month—	Comp.	Prod.	Dry	Gas
January	32	517	16	3
February	29	756	7	7
March	47	1,309	15	6
April	34	2,171	11	3
May	36	1,176	14	6
June	33	1,337	15	4
First 6 mo. '27	211	7,266	78	28
First 6 mo. '26	599	55,817	133	42
Difference	388	48,551	55	14

Completion by Counties

County—	Comp.	Prod.	Dry	Gas
Ashley	2	0	2	0
Bradley	2	0	2	0
Clark	1	0	1	0
Columbia	5	0	5	0
Grant	2	0	2	0
Lafayette	2	0	2	0
Miller	1	0	1	0
Nevada	22	860	10	0
Ouachita	45	1,761	11	2
Union	127	4,545	40	26
Little River	2	0	2	0
Ttl. First 6 mo. '27	211	7,266	78	28

NORTH LOUISIANA

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	54	1,752	19	7
February	57	1,654	23	13
March	72	2,879	39	12
April	66	3,409	29	16
May	51	869	24	10
June	72	1,863	32	15
Ttl. first 6 mo. '27	372	12,426	166	73
Ttl. first 6 mo. '26	482	48,033	107	46
Difference	110	25,607	59	27

Completions by Parishes

Parish—	Comp.	Prod.	Dry	Gas
Bienville	2	0	2	0
Bossier	23	102	12	7
Caddo	141	5,675	36	17
Caldwell	4	0	4	0
Claiborne	11	16	10	0
DeSoto	8	341	3	2
East Carroll	2	0	2	0
Franklin	3	0	3	0
Grant	25	450	23	0
Jackson	4	0	4	0
LaSalle	31	3,156	12	1
Madison	1	0	1	0
Monroe dist.	40	*	5	35
Natchitoches	14	0	14	0
Rapides	3	0	3	0
Red River	8	263	3	0
Richland	8	gas	2	6
Sabine	14	2,053	4	1
Webster	16	370	8	4
Winn	15	0	15	0
Total first 6 months 1927	372	12,426	166	73

*439,586,000 feet gas.

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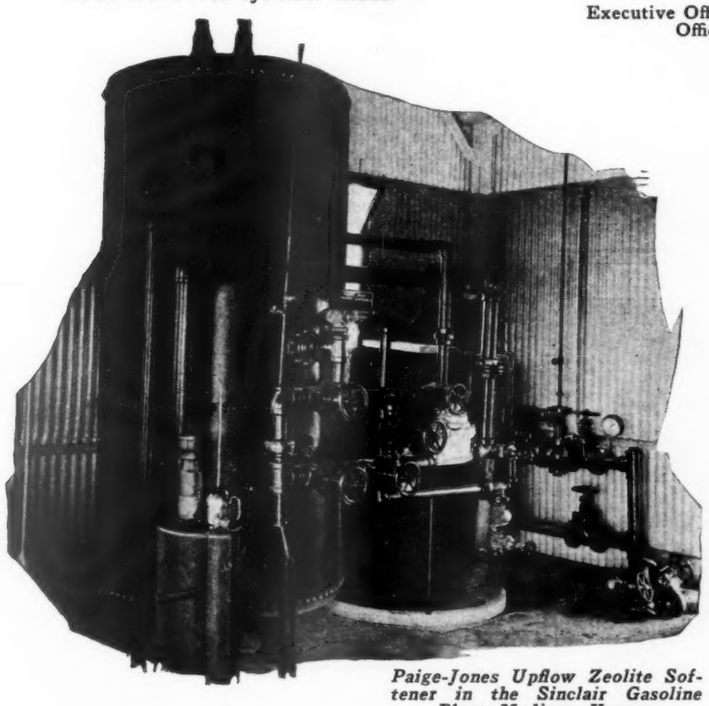

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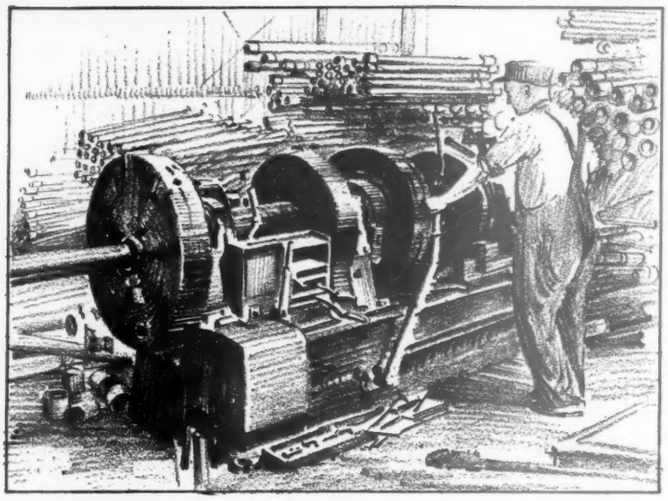

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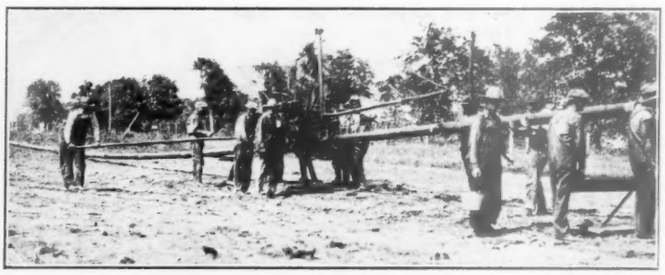

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ROCKY MOUNTAIN OPERATORS SLOW UP

(Continued from Page 134)

Baxter Basin Field in Sweetwater County to Salt Lake City, Utah, is to carry gas to that point and the other is a 6-inch screwed pipe line from the LaBarge Field to a rail point on the Oregon Short Line. Neither one had been started at the close of the half year.

A late snowstorm tied up traffic and the field in Wyoming and Montana in April. In the Lance Creek Field, Niobrara County, the snow was 4 feet deep and all roads blocked, the store in the field burned, leaving the field residents without provisions. With the aid of tractors and trucks, a road was broken and food brought to the field.

The Continental Oil Co. hung up a record for fast work in drilling a well in April. In the Big Muddy Field, this company made 3,706 feet of hole in 24 days with a rotary outfit.

Water was commencing to show in some of the wells in the Lost Soldier Field in April.

In April, Frank G. Kistler, began diamond drilling an area in Carbon County to obtain the under-surface geology, the Boar's Tusk Oil Co. will drill a diamond drill hole in a wildcat area north of Rock Springs to a depth around 4,000 feet in order to test out a structure there.

The oil pipe line from the Oregon Basin Field in Park County to the Burlington Railroad near Cody was started in May by the Illinois Pipe Line Co., this will be an 8-inch line, 15.5 miles long, screw pipe.

The Ohio Oil Co. took over the Enos Creek Dome in Hot Springs County, discovered by the Producers & Refiners Corp. about four years ago. This structure had been shut in since the Producers & Refiners found a big gas well there.

Mule Creek Crude to Canada

Due to a demand for crude in Canada, the Mule Creek Field in Niobrara County was placed on production after being shut in for two years. The oil from this field can be sent to Canada cheaper than it can be sent to refining points in Wyoming and the Argo Oil Co., (Midwest Refining Co.) and the Ohio Oil Co. control the field. Starting off with a production of about 1,500 bbls. the field has dropped down to around 1,000 bbls.

The Government was appealed to by the companies in Salt Creek that operate gasoline plants, for a reduction of the usual royalty on gasoline extracted in the field. The Government accorded the oil companies a reduction in the royalty on account of the low market price of gasoline.

The Producers & Refiners Corp. secured a contract with the Imperial Oil Co. of Canada to ship some 50,000 bbls. of oil to Regina. This shipment of crude was made up of Lost Soldier crude tempered with Lander oil to bring down the gravity to the specifications of the contract.

Many Small Wells Abandoned

The low market for crude that has prevailed during the spring months in the Rocky Mountain region has caused the abandonment of many small producers. The Big Hollow Field which produced black oil and is located southwest of Laramie will be abandoned entirely.

The Government has met the petition of the oil producers in Salt Creek that asked for a reduction in the royalty during the low market period, by reducing the royalty of the Government to a sliding scale, provided however that overriding royalties owned by companies or private parties shall also be reduced.

Two electric transmission lines are proposed and one is building in Wyoming that will have a direct effect on field work where the lines pass. The Big Horn Basin has a transmission line planned from the Shoshone Dam in the Shoshone Canyon above Cody to the Grass Creek and other fields of the central portion of the Big Horn Basin. This line will take its power from the government plant at the dam and is to be built by Ray Phebus and Arthur K. Lee.

Another line is building from the new dam at Guersey, on the North Platte River, to the Big Muddy Field and Casper and this line will furnish power to the fields in this part of the North Platte Valley and also to the towns and cities along the route.

New Teapot Survey

The Federal Government has ordered a new survey of the Teapot Dome in order to try and obtain a better idea of the amount of oil that can be expected to be had from the dome in the future.

The Ohio Oil Co. has taken over the Guiterman operation east of Cody, Park County and will drill the field at once. This is a shale oil operation that has a production around 1,200 feet and the oil is a good grade light crude.

The Midwest Refining Co. brought in the largest well of this year in a new Lakota sand producer in the Salt Creek Field. This gusher tests 4,544 bbls. in 24 hours at a depth of 2,465 feet.

A gas line is proposed to carry gas to the towns and cities of the North Platte Valley, between the Lander Creek Field in Niobrara County, Wyoming and the city of Scotts Bluffs in Nebraska.

MONTANA

As the new year came in the Hard Rock Oil Co. finished the gas line from Chinook to Havre and the gas was turned into the line on the first day of the new year. The purchasing of interests started when the California Petroleum Co. and the Julian Petroleum Co. took over large holdings in Sunburst in 1926 continued into 1927 and in January the California Eastern Oil Co. bought the Sunburst Oil & Refining Co.'s refinery at Great Falls. The price paid was $750,000.

The city of Shelby at the south end of the Sunburst Field gave a gas franchise to the Shelby Oil & Gas Co. for a duration of 40 years, for furnishing natural gas to that city.

In the Sunburst Field, the Ski-You Mau Oil Co. opened a new pool with a 200-bbl. well on Section 33-35-1, on the southeast side of the field. During the last of January, a drop in the temperature to below zero weather caused a general shut down in Sunburst and this condition maintained several times before summer finally drove away the cold and wet weather and permitted the operators to go ahead with their campaigns in the field.

The Carter Oil Co. started a wildcat far south of the Sunburst development, on the Marias River, but the test was destined to come in a water hole early in May and was abandoned.

During April several showings of oil reported in wells that had drilled through the Madison lime at Sunburst and at other points in northern Montana has led to a further investigation of this deep formation as a possible oil bearing horizon. The Devonian has been found with small oil shows in it since 1922 at several places in northern Montana and the repetition of the showings indicate to many oil operators and geologists that this old formation lying just under the Carboniferous, may carry petroleum in paying quantities.

A gas line was proposed to carry gas from the Cabin Creek Gas Field in eastern Montana to Miles City, and it was planned to have the Hope Engineering Co. of Mount Vernon, Ohio, lay the line.

An Important Strike

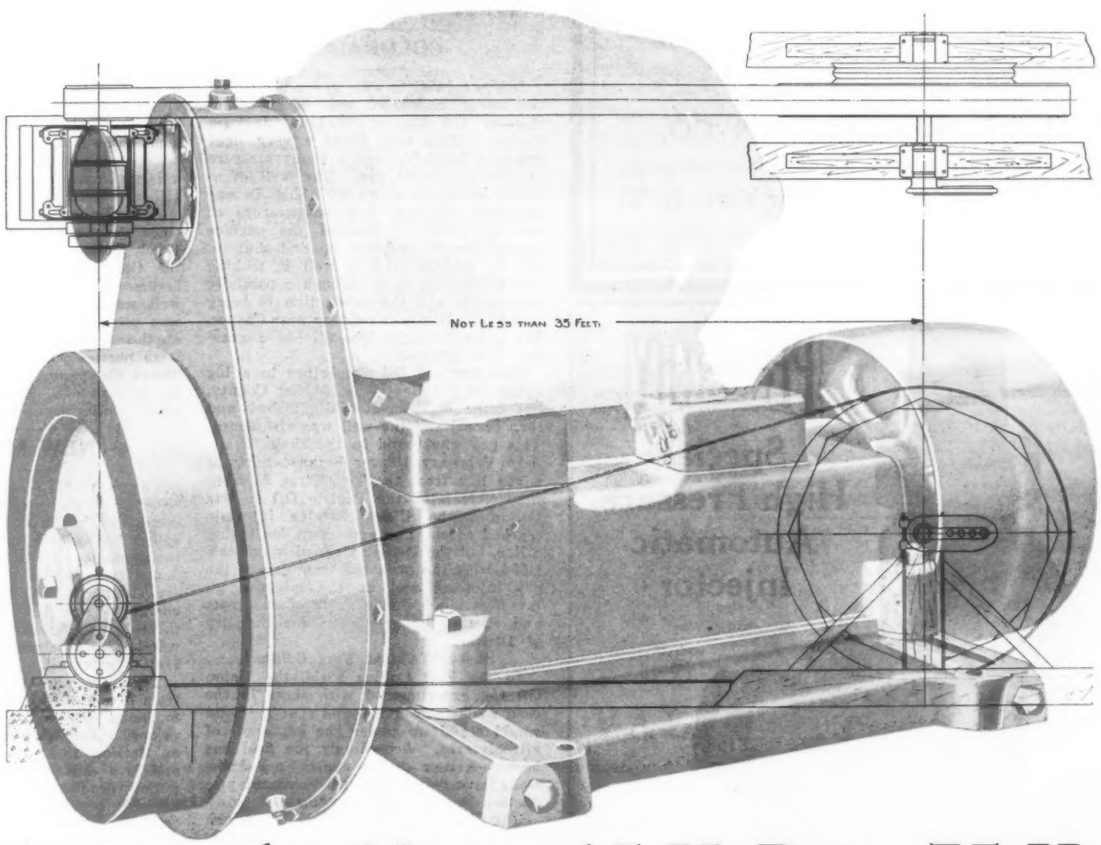
What is considered a very important strike was made by the Stevenson interests on the Bear's Den Dome, Liberty County, east of the Sweetgrass Hills at 1,010 feet. The well is located on Section 7-36-6 and found commercial gas production of 15,000,000 feet.

In southern Montana, the Ohio Oil Co. started drilling a deep test in Carbon County on a solid block of leases comprising some 9,000 acres. This block is considered to cover the whole structure and the Ohio Oil Co. expects to find production around 3,000 to 4,000 feet. This first well is located near the transmission line of the Montana-Minnesota Power Co. and the Ohio Oil Co. instead of sending in a boiler and engine for the power unit, arranged with the power company for

The O. C. S. DIAMOND TIMKEN

Reduction Unit

The economical installation for drilling or pumping with standard rigs when electric power is used.



Any make Motor 15 H. P. to 75 H. P. Belt or chain drive bandwheel

Write for Bulletin 31

THE OIL COUNTRY SPECIALTIES MFG. CO.

COFFEYVILLE, KANSAS, U. S. A.

New
25th Edition

STANDARD OIL BOOKLET

This Booklet contains description of properties, annual reports for 1926, dividend rates, price ranges and other important information relative to this group of companies.

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PENBERTHY INJECTOR COMPANY
Established 1886
Canadian Plant: WINDSOR, ONT., CAN.
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electric power and placed a transformer and suitable motors at the well.

On Section 11-37-2, the S. Hart Green Syndicate drilled into a showing of oil about a mile south of the Canadian border and the well for a time appeared to be a discovery well of a new field. The show failed to materialize into a commercial producer and the well was abandoned.

Gas Lift in Sunburst

The oil sands in the Sunburst Field have been found to be adaptable for the gas lift method and also for the gas drive. The Ferdig Oil Co. experimented with the gas lift in its wells in the field and has found this method superior to the older pumping outfits. The Big West Oil Co. is experimenting with the gas drive method and the sands appear to be benefited and the production increased by this method. This is the only field in the whole Rocky Mountain region however, where the gas drive and the gas lift methods have proved profitable.

In June the Wilcox Pool on the east side of the Sunburst Field was proving up as a new operation in that field and two 1,000-bbl. wells were brought in at the last of the month. The Adams Oil Co. found one of the big wells and the O'Neil interests had the other.

Ralph Arnold and others drilled in a discovery well on the Pondera Dome, Pondera County that will make a commercial gasser and may make an oil well producing black oil.

COLORADO

Interest in Colorado was centered on the newly discovered well of the Continental Oil Co. at Walden, Jackson County. This well found a very light crude at 5,010 feet and a heavy pressure of carbon dioxide gas. The well eventually produced up to 800 bbls. in one day, but the very low temperature of the gas when it reached the surface caused the oil to freeze up and shut in. At the midyear, this well is making about 200 bbls. daily through a partially shut valve and the production is being sent to the Glenrock refinery near Casper, Wyo., for refining. The oil has a gravity of 50 degrees.

The Marland Oil Co. brings in a big gasser on the Iles Dome, Moffat County, but later on the flow diminished and then ceased and the well was abandoned. This gas was found in the shale.

In February Denver began talking of a gas line from the Texas gas fields to that city, later the Prairie Oil & Gas Co. and the Cities Service interests reached a tentative agreement for laying a line, but the Denver Council is not satisfied with the proposed franchise of the gas interests and at the midyear an investigation is being made of the costs and charges by specialists for the city of Denver.

Shoot Wells at Fort Collins

In the Fort Collins Field, the Union Oil Co. experimented with shots in the deep wells there and found that the sand would stand up under the explosion of nitroglycerin. Accordingly the field has become a user of the explosive and the wells have responded with increased production in practically every case.

The Continental Oil Co. laid a 4-inch pipe line, 2½ miles long from the discovery well to the railroad for the shipment of the production and also placed tankage at the end of the line. Two wells were started in February and one of these found a shallow production that is commercial at 600 feet and which has stopped the work of drilling for the time being.

The Texas Company developed the Tow Creek Field in Moffat County, finding the production in the shale about 2,500 feet, and this production is going to the refinery of that company at Craig.

The Continental Oil Co. discovered a new pool near Canon City that is thought to be an extension of the Florence Field. This same firm completed a new business block in the heart of Denver's business district and moved its offices into it.

An important strike was made by the Midwest Refining Co. in April on the Iles Dome, Moffat County. The Midwest well discovered oil in the Nugget sand and the crude is a black oil with a fair gasoline content. This crude is being refined at The Texas Company's refinery at Craig.

UTAH

The past six months in Utah recorded dismal failures where the oil men were expecting new fields. The new year came in with the Cane Creek development below Moab, having good producer in the Cane Creek No. 1, though it was muddied off while the well was drilling deeper, another test 5 miles to the south was drilling on the Shafer Dome by the Midwest Refining Co. and looked good for another field, several other wells drilling on wildcat structures in eastern Utah were expecting to come into big production on the strength of the Cane Creek showing.

Now at the midyear, the Cane Creek well is to be abandoned, another test drilled by Snowden & McSweeney found no production although it was drilled on the axis of the Cane Creek Dome. The Shafer Dome well is a duster and the whole area south of Moab has received a black eye that it will be hard to recover from. The only faint hope for the area is that the domes will prove to be oil bearing on the flanks like the salt domes of the Gulf Coastal Region.

The gas wells found by the Utah Oil & Refining Co. near Cisco, Utah, were taken over by the Crystal Carbon Co. and 38 units installed there for the manufacture of carbon black. The Utah Oil & Refining Co. has five wells at Cisco.

An executive order placed the Indian lands in Utah under the leasing act and made these lands ready for leasing to the oil operators. This is expected to open a large area in southern Utah that has hitherto been closed to the companies.

A legal question has developed in Utah since the discovery of oil on the Cane Creek Dome. This structure lies across the Colorado River and the river bed became valuable oil territory when the well was brought in. The Government was preparing to lease the river bed to applicants when the state of Utah leased it to parties who in turn leased to The Texas Company. The result is a legal battle that will stand as a decision for many similar cases.

NEW MEXICO

The year 1927 started off in New Mexico with several promising structures being drilled, but before the first six months had rolled around, many of these promising operations were found dry and abandoned and the only new pool for the first six months of 1927 was the Hospah Pool opened by the Midwest Refining Co. and there is still doubt in some minds as to whether it will make a commercial operation after all.

The new year started off with deep tests in the Maljamar Pool which seemed to indicate a deep sand field to be developed. The Ohio Oil Co.'s deep test, on Section 18-17-32, went to 4,385 feet and is a duster, although it looked like a new producer at first. During January, the best producer found in the Artesia Field was the well of the Empire Gas & Fuel Co. on the west side, Section 2-18-27, which flowed at the rate of 25 bbls. per day.

Another good well at the start was that of the Maljamar Oil & Gas Co., on Section 16-17-32, at 4,113 feet. This well made about 7 bbls. per hour, but later the production dwindled and when it got down to 45 bbls. daily the well started drilling deeper and is now about 200 feet below where the showing was found. On Section 27-17-30, the Mid-Continent Oil Co. found a wet gas producer good for 4,000,000 feet daily at 1,806 feet and is drilling deeper at this time.

The Marland Oil Co. entered the operations in southern New Mexico with the purchase of leases in eight townships in that part of the State.

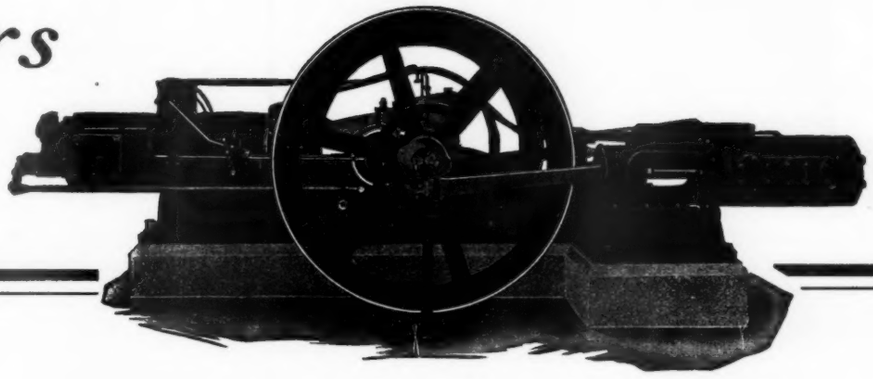
The Illinois Pipe Line Co. started work on the pipe line to the new Maljamar Pool.

In February, several mergers of small

DIRECT DRIVEN

Compressors

40, 50, 60, 75 & 90 H. P.



THE simplicity and accessibility of these Compressors and Vacuum Pumps have contributed much to their popularity in the field. The ease with which they are operated and their dependability, make them mighty convenient and efficient plants.

One man (usually the pumper) can run these plants, as it is only necessary to fill the lubricator once a day.

All adjustments can be made with ordinary wrenches—and valves removed for inspection without changing pipe connections, etc.

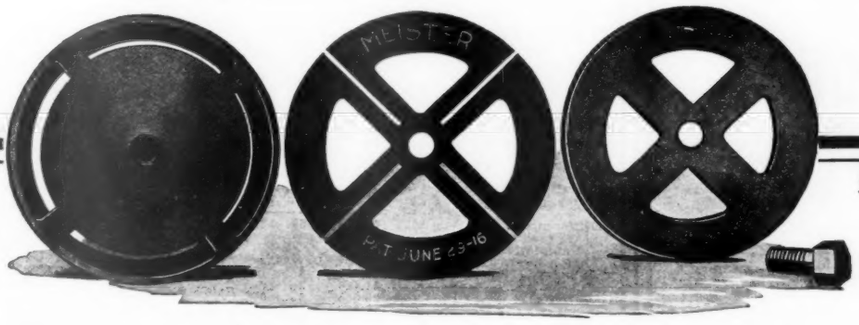
Fresh oil is pumped to each bearing as needed.

The Main Bearings are renewable Phosphor Bronze, with wedge adjustment.

These plants can be arranged with vacuum cylinder on one side and compressor cylinder on the opposite side, to circulate gas.

Made in 40, 50, 60, 75 & 90 H.P., suitable for pressure of fifty pounds to four hundred pounds.

All these powers are exclusively—



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- Gas Engines
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- Vacuum Pumps
- Oil Country Boilers
- Torpedo Reels and Clamps
- Steel Storage Tanks
- High Pressure Tanks
- Howe Casing Heads
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Equipped With MEISTER VALVES

Meister Valves are made of vanadium steel and weigh less than two ounces each. On account of their lightness they are absolutely noiseless and will never require grinding.

Seats are made separate from cylinder and are readily accessible for cleaning or repairing, without removing a single connection. As they are free from troublesome springs, they can be used in any position. Here are some features of Meister Valves.

1—Improved mechanical and volumetric efficiency over the old style poppet valve.
2—Elimination of lubrication of any kind for the valve itself.
3—Silent operation at the highest piston speeds.
4—Valves never require regrinding.
5—Elimination of troublesome springs.
6—Simplification of air end, owing to the absence of all complicated valve operating mechanism.

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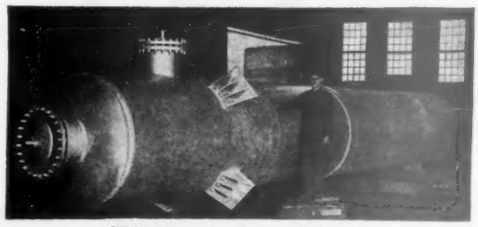
MARIETTA, OHIO

Tulsa, Okla.	Nowata, Okla.	Wichita Falls, Tex.	Putnam, Tex.	Bradford, Pa.
A. S. Dunnington	J. Barnes	J. W. Noland	Putnam Supply Co.	Blaisdell Machinery Co.

Years of Experience



Welded expansion drum, 60" diameter.
Tested to 300 lb. hydrostatic pressure.

YEARS of experience in serving power plants on small jobs and large, make it possible for *Power Piping* to promise speedy, dependable service at the lowest possible cost on any work involving design, fabrication or erection.

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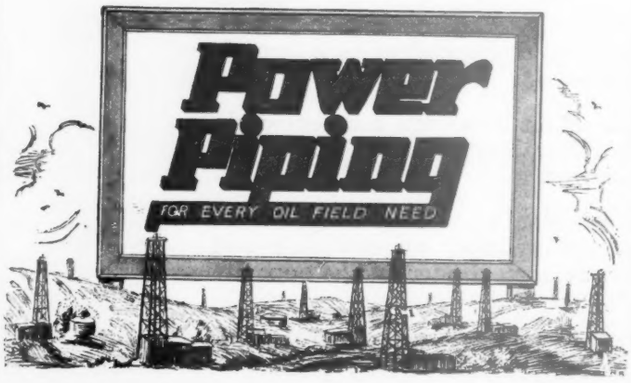

Red Bank Oil Company

Oil Operators

306 Castle Bldg.
Tulsa, Oklahoma

interests and holdings in the southern fields of New Mexico showed that the small holders of interests were combining. The larger firms also took over some leases at this time, the Midwest Refining Co. bought the Rhen holdings of about 1,000 acres west of the Pecos River with one well on same, a small producer. Donnelly Brothers of Fort Worth, Tex., bought the Mitchell interest in the Twin Lakes Oil Co., this firm having eight wells and about 100 bls. production.

The Ohio Oil Co. definitely abandoned the McDonald well on Section 33-4-6, at a depth of 1,997 feet in the granite, on the Field anticline.

The Midwest Refining Co. merged 17 permits in Lea County and contracts to test same. The Prairie Oil & Gas Co.'s test, on Section 10-17-31, comes in a producer good for 75 bbls. at 3,412 feet and in spite of the depth, raises the hopes of a new pool. This strike is followed by the Maljamar Oil Co.'s well on Section 5-17-32, which started off at 150 bbls. at 3,715 feet.

In April, the Midwest Refining Co. opened what appeared to be a new field on the Hospah structure, McKinley County. This well found production at 1,531 feet that made 11 bbls. per hour on the pump. Its location is on Section 1-17-9, but drilling was continued after a time and the exact status of the well is not known at this time.

In May, the Ohio Oil Co.'s well, on the Red Mesa Dome, firmly believed to be a new field, came in a dry hole. This well is located just over the line in Colorado, but the structure is generally credited as a New Mexico dome.

Henderson, Dexter & Blair together with the Texas Production Co. drilled a deep test on Section 34-17-33 that is 5,160 feet and found only one show of oil at 4,832 feet.

In May, the Magnolia Petroleum Co. completed the blocking of some 4,300 acres in Lea County and together with the Marland Oil Co. will proceed to test these holdings.

WYOMING

Summary of completed wells January-June inclusive:

District—	Comp.	Prod.	Dry	Gas
Big Muddy	7	208	1	0
Salt Creek	120	106,532	4	0
Lance Creek	1	35	0	0
Big Horn Basin	7	202	5	0
Lost Soldier and Carbon County	10	2,519	3	0
Rock River District	3	30	2	0
Fremont County	12	1,325	6	1
Osage	0	0	0	3
Natrona County	0	0	0	0
Lincoln and Uintah Counties	10	775	1	1
Baxter Basin	0	0	0	0
Laramie County	1	0	1	0
Converse County	1	5	0	0
Campbell County	1	0	1	0
Total	173	111,631	24	5
Same period 1926	241	22,863	29	17
Difference	*68	88,768	5	12

*Decrease.

Completions by months:

Month—	Comp.	Prod.	Dry	Gas
January	26	4,382	3	1
February	17	11,416	2	2
March	45	25,066	8	0
April	31	18,978	7	1
May	32	45,142	3	1
June	22	6,647	2	0
Total	173	111,631	25	5

MONTANA

Summary of completed wells January-June inclusive:

District—	Comp.	Prod.	Dry	Gas
Kevin Sunburst	142	11,838	42	7
Cat Creek	2	0	2	0
Phillips County	1	0	1	0
Yellowstone County	3	0	3	0
Stillwater County	3	0	3	0
Petroleum County	3	0	3	0
Blaine County	1	0	1	0
Carbon County	1	0	1	0
Musselshell County	1	0	1	0
Fallon County	1	0	0	1
Total	158	11,838	57	8
Same period 1926	105	17,296	34	1
Difference	53	5,458	23	7

Completions by months:

Month—	Comp.	Prod.	Dry	Gas
January	31	2,126	10	2
February	14	192	6	1
March	12	848	4	0
April	29	4,494	10	2
May	26	1,650	8	0
June	46	2,528	19	3
Total	158	11,838	57	8

COLORADO

Summary of completed wells January-June inclusive:

District—	Comp.	Prod.	Dry	Gas
Larimer County	9	2,065	0	0
Fremont County	33	845	22	0
Moffat County	6	2,500	3	1
Routt County	5	800	2	0
La Plata County	2	2	1	0
Pueblo County	2	25	1	0
Boulder County	1	0	1	0
Jackson County	1	1,500	0	0
Las Animas County	1	0	0	1
Total	59	7,737	30	2
Same period 1926	27	1,620	18	2
Difference	32	6,117	12	1

Completions by months:

Month—	Comp.	Prod.	Dry	Gas
January	4	2,375	1	0
February	13	1,440	3	1
March	9	712	2	0
April	9	2,700	5	0
May	12	100	11	0
June	12	400	8	1
Total	59	7,737	30	2

UTAH

Summary of completed wells January-June inclusive:

District—	Comp.	Prod.	Dry	Gas
San Juan County	3	0	2	1
Daggett County	1	0	1	0
Grand County	1	0	1	0
Total	5	0	4	1
Same period 1926	2	0	1	1
Difference	3	0	3	0

Completions by months:

Month—	Comp.	Prod.	Dry	Gas
January	0	0	0	0
February	1	0	0	1
March	0	0	0	0
April	1	0	1	0
May	2	0	2	0
June	1	0	1	0
Total	5	0	4	1

NEW MEXICO

Summary of completed wells January-June inclusive:

District—	Comp.	Prod.	Dry	Gas
Artesia and Eddy County	22	604	7	0
Chaves County	6	10	4	0
San Juan County	11	1,068	5	0
Lea County	3	400	1	0
McKinley County	3	110	1	0
Curry County	1	0	1	0
Mora County	1	0	1	0
Sierra County	1	0	1	0
Valencia County	2	0	2	0
Total	50	2,192	23	0
Same period 1926	35	6,075	3	0
Difference	15	*3,883	20	0

*Decrease.

Completions by months:

Month—	Comp.	Prod.	Dry	Gas
January	12	1,202	4	0
February	8	335	1	0
March	8	375	4	0
April	7	140	2	0
May	11	20	9	0
June	4	120	3	0
Total	50	2,192	23	0

Crude oil production by districts January-June inclusive:

WYOMING

Salt Creek	7,722,460
Teapot	160,339
Big Muddy	502,910
Grass Creek	484,990
Elk Basin	156,960
Greybull	3,405
Rock River	504,083
Rex Lake	30,240
Lance Creek	123,810
La Barge	38,830
Poison Spider	63,810
Dutton Creek	1,390
Mule Creek	66,300
Hamilton Dome	168,360
Notches	820
Osage	61,360
Lander	28,490
Byron	10,210
Lost Soldier	641,990
Ferris	9,070
Simpson Ridge	9,490
Total	10,779,747
Same period 1926	14,180,785
Difference	3,401,038

MONTANA

Cat Creek	419,680
Kevin Sunburst	2,021,100
Lake Basin	32,260
Total	2,473,040
Same period 1926	1,429,835
Difference	1,043,205

COLORADO

Florence	115,200
Moffat	412,327
Fort Collins	673,306
Boulder	4,450
Rangley	17,800
Tow Creek	129,777
Walden	15,631
Iles	29,810
Miscellaneous	238
Total	1,398,539
Same period 1926	376,186
Difference	1,022,215

NEW MEXICO

Hogback	132,010
Rattlesnake	256,280
Artesia	341,700
Table Mesa	43,106
Total	773,105
Same period 1926	305,130
Difference	467,975

MISCELLANEOUS

Total January-June	8,600
Same period 1926	42,245
Difference	*33,645

*Decrease.

Grand total	15,433,031

PRODUCTION BY MONTHS

January	2,620,303
February	2,385,135
March	2,476,798
April	2,615,770
May	2,742,588
June	2,592,437
Total	15,433,031
Same period 1926	16,334,651
Difference	*901,620

*Decrease.

FORGE AND HAMMER WELDED PRESSURE TANKS

Guaranteed

Every Blaw-Knox Forge and Hammer Welded Pressure Tank is guaranteed by the Blaw-Knox Company to be LEAKLESS, BOTTLE-TIGHT, and SAFE.

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"Central" Oil Country Tubular Goods

Large gas companies, after using "Central" Pipe, have commented upon its uniform lengths, perfect roundness, and careful beveling. These sterling qualities in "Central" reduce construction costs by speeding up the field work and, in addition, insure a tight durable line.
For complete satisfaction all around use "Central" Pipe on your next job.

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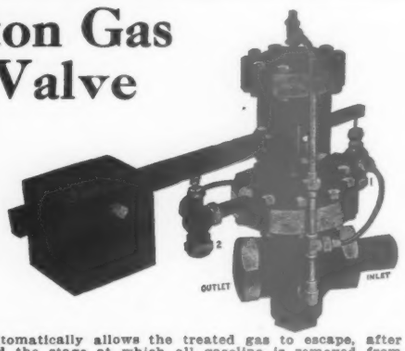
DISTRIBUTORS: Taubman Supply Corporation, Tulsa, Oklahoma, and branches; Dunigan Tool & Supply Co., Breckenridge, Texas, and branches; Putnam Supply Company, Putnam, Texas, and branches; Louisiana Iron & Supply Co., Shreveport, La., and branches; Petroleum Equipment Co., Los Angeles, California, and branches; American Supply Co., Mexia, Texas; Standard Supply Co., Inc., Wichita Falls, Texas.

The Fulton Gas Relief Valve

For Natural Gas Gasoline Plants



The Fulton Relief Valve automatically allows the treated gas to escape, after the compression has reached the stage at which all gasoline is removed from the gas under treatment, and permits a fresh supply of untreated gas to enter. The weights on the lever can be accurately adjusted to operate at the desired point of compression. When this point is reached the valve blows until the pressure falls to 20 or 25 pounds, or until the treated gas has escaped. By regulating the tappet screw on the lever which touches the stem of the exhaust pilot valve, the period of blowing can be shortened or lengthened as may be desired.
WRITE for list of installations in your vicinity. See this Relief Valve in operation. Talk with the operators. Make your own investigations. Send for complete catalog.

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Organized 1884—Oldest builders of gas regulators in the country. Built in all sizes, from 1 inch to 24 inches; for all service, 1 oz. up to 1,000 lbs. pressure to square inch.

28-34 Penn Avenue **Pittsburgh, Pa.**
47

Gott Water Can or Gottkool

Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.

H. P. GOTT MFG. CO.
Winfield, Kansas

MICHIGAN AND INDIANA WORK IS FEATURED

(Continued from Page 130)

ford County, that is being watched with much interest by operators.

Central West Fields

General summary of completed work in the first six months of 1927:

Field—	Comp.	Prod.	Dry	Gas	Abd.
Lima	126	1,132	15	7	105
Central	179	1,838	48	91	0
Indiana	127	1,704	55	15	50
Illinois	67	1,230	20	5	13
Michigan	138	2,860	11	2	0
First half 1927	637	8,764	149	120	168
First half 1926	641	9,347	143	129	211
Difference	4	583	6	9	43

Lima Field

Summary of completed wells in first six months, 1927:

	Comp.	Prod.	Dry	Gas	Abd.
January	23	218	2	1	8
February	19	167	1	0	7
March	21	162	2	1	9
April	23	183	4	2	25
May	22	284	2	1	21
June	18	118	4	2	36
First half 1927	126	1,132	15	7	105
First half 1926	217	3,108	14	9	160
Difference	91	1,976	1	2	55

The above wells were distributed among the various counties in the Lima Field, as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Wood	29	274	2	0	38
Hancock	16	107	5	1	0
Allen	4	88	0	0	21
Auglaize	13	75	4	1	11
Sandusky	9	42	1	0	15
Mercer	12	75	0	0	6
Van Wert	0	0	0	0	4
Seneca	6	78	1	0	1
Lucas	3	27	0	1	9
Ottawa	14	130	0	1	0
Shelby	10	100	1	0	0
Hardin	6	120	1	1	0
Darke	2	16	0	0	0
Logan	1	0	0	1	0
Wyandot	1	0	0	1	0
Total	126	1,132	15	7	105

Indiana

The wells completed the first six months of 1927 in the Indiana Field were by months as follows:

Month—	Comp.	Prod.	Dry	Gas	Abd
January	13	174	5	0	17
February	12	96	5	0	0
March	18	355	6	3	7
April	28	310	16	1	1
May	19	314	8	3	26
June	37	455	15	8	3
First half 1927	127	1,704	55	15	50
First half 1926	67	830	27	4	25
Difference	60	874	28	11	25

The above wells for the first six months of 1927 were distributed among the various counties as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Blackford	1	30	0	0	0
Jay	10	122	4	0	15
Adams	16	251	3	1	5
Grant	1	0	1	0	0
Gibson	18	633	8	1	2
Pike	29	239	14	1	6
Sullivan	6	142	3	0	0
Daviess	23	271	13	0	0
Allen	1	0	1	0	0
Vigo	2	0	1	1	0
Knox	1	14	0	0	1
Howard	1	0	1	0	0
Warrick	3	0	3	0	0
Randolph	1	2	0	0	11
Spencer	2	0	2	0	0
Bartholomew	2	0	1	1	0
Delaware	0	0	0	0	10
Rush	1	0	0	1	0
Madison	1	0	0	1	0
Perry	1	0	1	0	0
Kosciusko	2	0	0	2	0
Hancock	1	0	0	1	0
Harrison	2	0	0	2	0
Lawrence	2	0	0	2	0
Total	127	1,704	55	15	50

Illinois

During the first half of 1927, the completions in the Illinois Field were by months as follows:

Month—	Comp.	Prod.	Dry	Gas	Abd
January	15	151	4	2	3
February	4	180	0	0	2
March	13	226	2	0	3
April	15	327	6	2	1
May	9	155	6	0	3
June	11	191	2	1	1
First half 1927	67	1,230	20	5	13
First half 1926	148	3,142	52	2	26
Difference	81	1,912	32	3	13

The above wells were distributed among the various counties as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Clark	7	171	2	0	0
Crawford	12	51	3	1	0
Lawrence	15	404	1	1	12
Wabash	24	589	8	1	0
Marion	1	0	1	0	1
McDonough	1	15	0	0	0
Morgan	4	0	2	2	0
Madison	1	0	1	0	0
Clinton	1	0	1	0	0
Coles	1	0	1	0	0
Total	67	1,230	20	5	13

Central Ohio

For the first six months of 1927, the wells completed in the Central Ohio Field were by months as follows:

Month—	Comp	Oil Wells	Prod.	Dry	Gas
January	36	3	132	10	23
February	34	8	401	7	19
March	33	8	415	9	16
April	21	6	347	9	16
May	20	5	293	6	9
June	25	10	250	7	8
1st half '27	179	40	1,838	48	91
1st half '26	198	35	2,020	49	114
Difference	19	5	182	1	23

The above wells for the first half of 1927 were distributed by Counties as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Knox	13	2	100	6	5
Ashland	14	0	0	4	10
Medina	27	11	31	8	8
Lorain	2	0	0	1	1
Wayne	10	0	0	4	6
Holmes	48	26	1,627	6	16
Athens	15	0	0	4	11
Coshocton	11	1	80	5	5
Cuyahoga	38	0	0	10	28
Summitt	1	0	0	0	1
Total	179	40	1,838	48	91

Michigan

There were a total of 138 completions reported in the Michigan fields for the first half of 1927, and distributed by months as follows:

Month—	Comp.	Prod.	Dry	Gas
January	23	357	3	0
February	22	350	3	0
March	24	860	1	0
April	19	353	3	0
May	25	434	1	0
June	25	506	0	2
First half 1927	138	2,860	11	2
First half 1926	11	247	1	0
Difference	127	2,613	10	2

The above wells distributed by counties for the first half of 1927, as follows:

County—	Comp.	Prod.	Dry	Gas
Saginaw	136	2,860	10	1
Midland	1	0	1	0
Gratiot	1	0	0	1
Total	138	2,860	11	2

SUNNYDALE POOL IS KENTUCKY FEATURE

(Continued from Page 130)

Pipe Line Co. put in a gathering line from its main line to the Island Creek Pool, in Owsley County, where the big well on the Brewer lease was found, and other gathering systems wherever new production was found along its system. The Petroleum Exploration Co. is working on a new gas line from its gas producing properties in the Idamay area of Owsley County, to Lexington, a distance of 56 miles, and another line for gas from its big lease on the North Jellico Coal Co.'s big acreage on the Indian Creek Dome, in Knox County, to Barboursville, a distance of about 18 miles.

In Clay County, Tennessee, the Paragon Development Co. has made a few connections from its line in the Peterman Bend Field to Juetts Creek Pool, Mill Creek Pool and smaller connections to production near these pools in both Clay and Pickett Counties, wherever production would warrant the laying of gathering lines to care for the production.

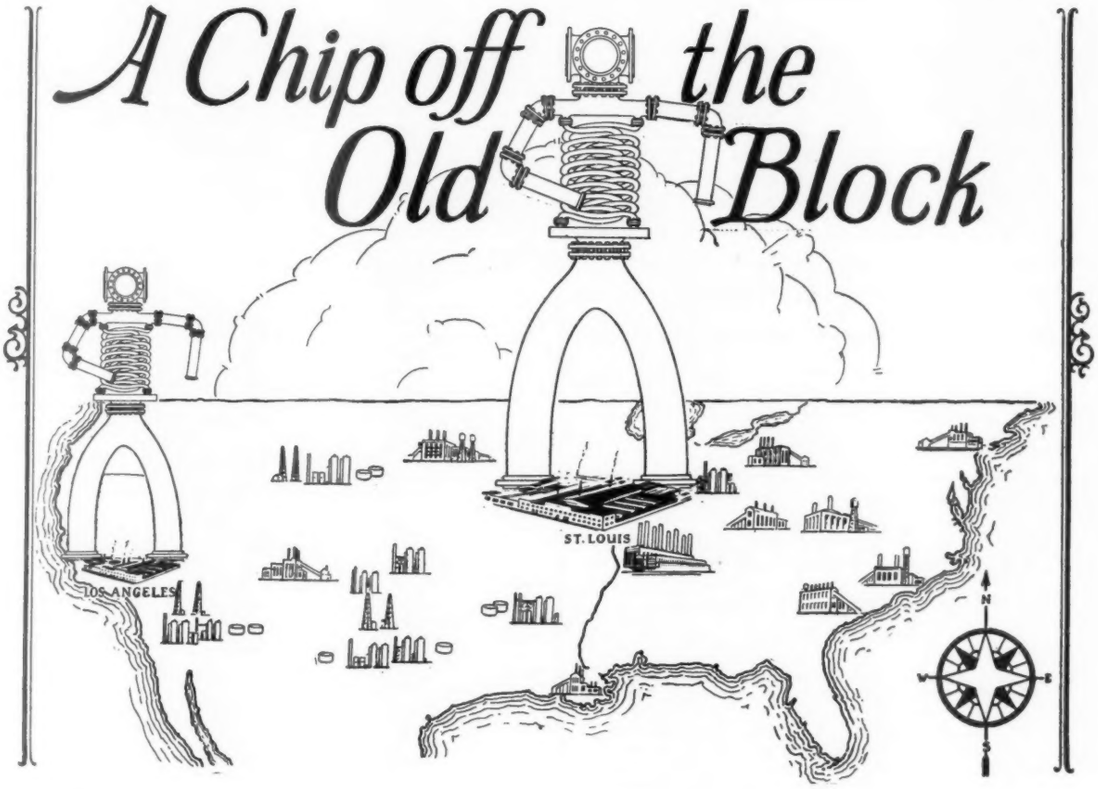
Kentucky

Taking the state of Kentucky as a whole, the first half of 1927 failed to show any indications of activity, which brought about a heavy slump in completed wells. There were 525 wells completed in the Blue Grass State the first six months, of which 399 were oil producers with an initial production of 12,453 bbls., 108 dry holes and 18 gas wells. This is a decrease from the first half of 1926 of 106 completed wells, 65 oil producers, 49 dry holes and 4 gas wells, while production increased 5,308 bbls.

Western Kentucky as usual led in all branches of the industry during the first period of 1927. There were 360 wells completed, of which 278 were oil producers with an initial production of 11,286 bbls. There were 80 dry holes and 2 gas wells. The eastern end is credited with 165 completions, 121 oil wells, 1,167 bbls., initial production, 28 dry holes and 16 gas wells. This is an increase for the west over the east of 195 completions, 157 oil wells, 10,119 bbls. production and 52 more dry holes, while in gas wells the eastern section led by 14.

Little wildcat work was shown in the eastern portion of Kentucky. In the west end a few interesting tests were made, and while the Ambrose Pool in Ohio County was opened in the latter part of 1926, its big development was on during the first six month of this year, by extensions to the field that brought this pool to the notice of oil men far and wide. The Hopewell Pool along the Cumberland-Adair County line, which made such a big showing in the early part of 1926, failed to show anything during the six months in review as the wells failed to maintain their production anywhere near normal.

A Chip off the Old Block



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Western Division

The western division of Kentucky made extensive strides during the first six months of 1927, due to a large extent to the work done in the productive Ambrose Pool, in Ohio County, and near-by areas, and the good wells found in parts of Barren, County. Warren, Allen and Simpson Counties, former active spots in the west, failed to show anything out of the ordinary, and same results are noticeable in the Cumberland - Monroe County area, Clinton County recorded an excellent producer on the Pierce Brothers lease.

An attempt was made to find commercial production in the vicinity of Alvaton, between Bowling Green and Scottsville, in the eastern part of Warren County about 12 miles east of Bowling Green, by R. B. Walker, who drilled a number of tests but failed to land anything worth while. This territory was pretty well tested some several years ago by Cleveland and Toledo, Ohio, parties, that were all practical in the industry and was given up by them.

Barren County

Barren County as usual leads all other counties in Kentucky in the number of completions during the six months' period, but in production Ohio County is far ahead. During the six months Barren County completed 126 wells, 101 oil producers with an initial production of 1,327 bbls., 24 dry holes and 1 gas well, while Ohio County had 109 completed wells, 91 oil wells, 8,260 bbls. initial production and 18 dry holes. Warren County was third with 58 completions, 38 oil wells, 329 bbls. initial, 19 dry holes and 1 gas well. Allen County, at one time the best shallow territory in the country, has gone back badly, as this county is only credited with 24 completions, 20 oil wells, 61 bbls. initial production and 4 dry holes, indicating the smallness of the producers that were brought in.

In January, in Barren County, Samson, Norris Brothers and others extended the Lecta Pool, 3 miles southeast of Glasgow, with a 50-bbl. producer, as a test on the Browning farm, while the Stohr Oil Corp. hit a 60-bbl. initial producer on the McGuire farm in the Glasgow Pool. In May the Samson Oil Co. made another important extension to the same pool by the bringing in of a 100-bbl. initial well on the Loden farm, the oil being found in the famous Blue sand at around 550 feet. A. W. Ziegler and others got a 50-bbl. well on the Darter.

Ohio County

The really sensational oil field of Kentucky during the first half of 1927 is Ohio County, where the Ambrose Pool, opened late in 1926, struck its stride at the opening of 1927, since which it has been a wonder pool for an area of territory that was looked upon as only good for small wells. This pool is a surprise to the trade in the way the wells hold up their daily production and the shallowness of the oil pay which is from 500 to 700 feet from the surface with both the Jett and Barlow sands to draw from. This pool was opened by the Ohio Oil Co. during the latter half of 1926, but it was up to a native to find the big production. This was James C. Ellis, of Owensboro, who secured a lease on the John R. Weller 110 acres and started operations in an active way. His first venture during the fall of 1926 was made on the farm in Nos. 1 and 2, the first being reported at around 400 bbls. and the second nearly as large. Since the opening of the current year up to the time covering this report he has brought in 16 producing wells, none of them with less than 100 bbls. initial production, which is a record for the western portion of Kentucky, although larger producers were uncovered in years gone by in both Warren and Allen Counties, as well as in Cumberland, Monroe and Clinton Counties.

In May, D. T. Bolling and others drilled a test a few miles northwest of the Ambrose Pool, on the A. Dickens farm, near Panther Creek Church, which did 15 bbls. initial at 618 feet. In May, Doctor Lang drilled a test well on the Widow Wilson farm on the south side of Rough River in Ohio County, about 4 miles southeast of the Ambrose Pool, and got a nice showing, which was enough to bring about an active leasing campaign, and early in June the Wood Oil Co. found a good showing on the Ben Smith farm, in the same vicinity, and just at the close of June Doctor Lang and others' second well on the Widow Wilson farm is reported showing for 60 bbls. No. 1 on this farm is a good gas well along with the oil showing. West a couple or more miles from the Ambrose Pool, C. E. Daugherty and others' No. 1 on the Bartlett-Owen lease, near Union Grove Church, is said to show for 60 bbls. in the Jett sand and may be a western extension to the Ambrose Pool.

Daviess County

The Leeper Oil Co. in January extended the producing area some miles distant to the southeast of the Pellville Field in Daviess County by the bringing in of a 25-bbl. producer on the John Roby farm at 488 feet. Tremor & Thompson drilled No. 2 on the John M. Miles farm, in the same area, and an offset to the Roby farm, getting a 75-bbl. initial producer at 507 feet.

Warren County

In the Bowling Green Field of Warren County, and 10 miles to the south of the county seat, the Lucky Strike Oil Co.'s test on the C. P. Amos farm, struck in March, showed 10 bbls. at 310 feet, while the Zickers Drilling Co.'s test on the W. L. Bryant farm, 9 miles south of Bowling Green, showed 20 bbls. at 475 feet.

Other Counties

Small strippers are the result of the drill in the Scottsville Field of Allen County. The best well reported for the six months in this county was No. 8 on the General Woods 2,700 acres, with an initial of 25 bbls.

In Cumberland County, in January, Baird & Hickman's No. 4 J. H. Morgan farm, in the Crocus Creek Pool, came in at 16 bbls. an hour and in February No. 5, same farm, came in at 15 bbls. an hour, but the production quickly dwindled.

McClintock, Reed & Heckathorn struck a 150-bbl. producer in No. 6 on the Pierce Brothers farm in Clinton County and it held up above expectations. It was drilled in March, but only enough oil is taken from the well to keep it in good shape on account of the present price of crude.

Much leasing has been done in the western division during the past few months and with a better price for crude, some wildcat work will be started.

Eastern Kentucky

The bulk of the work in the eastern part of the state for the past six months has to a large extent been confined to Estill and Johnson-Magoffin Counties, the latter two, having 41 completions and Estill County, 50 wells, Lee-Owsley 11 wells, Floyd-Knott 12 wells, and others having from 1 to 6 completions.

Eastern Kentucky shows a distinct falling off all along the line during the first six months of 1927. There having been but 165 wells completed, of which 121 were oil producers, with an initial of 1,167 bbls., 28 dry holes and 16 gas wells. When compared with the first half of 1926, this shows a decrease of 86 in completed wells, 78 less oil wells, 434 bbls. less production, 8 less dry holes and the same number of gas wells. This is an average of a little better than 9 bbls. per well.

In February the Monroe Oil Co. started the wildcat well on the J. F. Brewer lease, on Island Creek in Owsley County, to pumping as the Cumberland Pipe Line Co., but in a gathering line a distance of close to 8 miles to connect the well after testing it out under pump for several days, at the close of which the well was said to be good for 175 bbls. daily. This test caused a lot of excitement during 1926, coming in a gusher estimated at 225 bbls. per hour for 24 hours, then falling to 75 bbls. an hour the second 24 hours, when it stopped flowing last fall. Asher, Sampson and others made an effort to find paying production in the Beaver sand in McCreary County, but failed to find production of commercial value.

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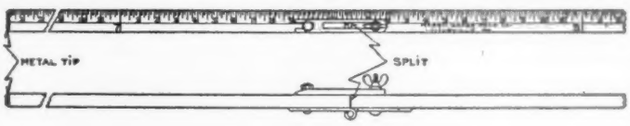

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Dillon drilled a test on the Eli Phipp farm, in District 3, which developed into the best completion for a long period in the county, the well being good for 30 bbls. a day.

During April, Hupp, Duff and others drilled a slightly advance well on the Clay Hammond farm, to the Ivyton Pool, District 31, Magoffin County, the well producing an initial of 25 bbls.

Tennessee

Prospects in Tennessee are much better for big production than ever before in the history of crude oil within the state limits. During the first six months of 1927 there were 23 wells completed in Tennessee, of which 22 were producers with an initial of 2,205 bbls., and 1 dry hole. Compared with the first half of 1926, when there were 18 completions, 10 producers with 1,855 bbls. production, 7 dry holes and 1 gas well, shows an increase of 5 in completed wells, 12 more producing wells, 350 bbls. more production, 6 less dry holes and 1 less gas well.

Some remarkably fine shallow producing wells are being developed in Clay, Jackson and other counties of Tennessee, with prospects of production found in many of the fine structures through the center of the state, south to the Mississippi-Alabama lines.

What is said to be one of the largest wells ever drilled in Tennessee came in during April on the Lon Cunningham farm, 4 miles south of Celina, on Mill Creek in the new McClurkin Pool, opened up during the summer of 1926. The well started at 60 bbls. an hour and in a few hours is said to have filled a 500-bbl. tank and flowed at the rate of 1,000 bbls. daily. The well is the second one drilled on the Cunningham farm, the lease of which is owned by the Ohio Oil Co. The sand was encountered about 100 feet below the Pencil Cave at a total depth of about 600 feet, and is near the strike made in March by the Cumberland Valley Oil Co., on the west end of the Barlow Langford farm, which was reported at better than 200 bbls. at 490 feet, about 30 feet below the Cave sand.

Recent strikes in Clay and Jackson Counties have given the oil business a decided boost, and the town of Celina is filled with oil men from far and near who are investigating the possibilities in the county as well as in adjoining counties to the east, south and west. Activity is also noticeable in Macon County, to the west of Clay County.

In January, Moorman and Herndon drilled a test on the James Arms farm, on the west side of the Cumberland River from Peterman's Bend, and at 150 feet under the Pencil Cave found a producer that made 35 bbls. and extended producing areas some distance. In Putnam County, George H. Clark's test on the Moore farm, 8 miles northeast of Cooksville, in the Spring Creek area, found a pay in the Upper Sunnybrook sand for 50 bbls. at 300 feet.

During April the Celina Oil Co. (R. E. Blick interests) drilled a test on the W. Rad Hawkins farm, on Lock Branch of Cumberland River, came in at 75 bbls., and No. 2 at 250 bbls. at 271 feet.

In May, Pratt and others' No. 1 on the Obey River, in the Fox Springs area, 12 miles east of Celina, in Clay County, came in at 25 bbls. In Pickett County, Owens, Turner & Lewis drilled No. 3 on the Mary Harrison lease in the Juetts Creek Field found a 50-bbl. pay in the lower Sunnybrook sand.

In June, the Celina Oil Co.'s No. 4 and 5 W. Rad Hakins farm, in Lock Branch of Cumberland River, in Jackson County, produced 100 and 300 bbls. the first 24 hours. In Clay County, on Holly Creek, 10 miles east of Celina, E. G. Brandenburg and others' test on the Mrs. Coffe farm is reported showing for 50 bbls. Pipe line connections have been arranged with the Paragon Development Co. to pipe to the well and the production will be taken care of.

After a long and tedious job, John H. McClurkin has been compelled to shut down operations for the present on his test on the Doctor Tucker farm, on Long Fork, 6 miles west of Red Boiling Springs, in Macon County, and 70 miles from Nashville, on account of the many pockets of gas encountered at a total depth of around 400 feet. From a depth of 75 to the present depth at least 27 gas sands were passed through and after being opened up for 30 days is said to still show an open flow of 1,000,000 feet a day.

Southern Fields

General summary of wells completed in the first six months of 1927:

Field—	Comp.	Prod.	Dry	Gas
Kentucky	525	12,453	108	18
Tennessee	23	2,205	1	0
Mississippi	3	0	3	0
Florida	1	0	1	0
First half 1927	552	14,658	113	18
First half 1926	657	9,000	162	21
Difference	105	5,658	49	3

Kentucky Field

The completions in the Kentucky Field during the first half of 1927 were recorded each month as follows:

Month—	Comp.	Prod.	Dry	Gas
January	95	1,442	20	2
February	88	1,880	14	2
March	79	1,996	13	2
April	86	1,699	20	1
May	101	2,768	22	7
June	76	2,668	19	3
First half 1927	525	12,453	108	18
First half 1926	631	7,145	147	20
Difference	106	5,308	39	2

The above wells were distributed among the various counties and districts as follows:

County—	Comp.	Prod.	Dry	Gas
Warren	58	329	19	1
Allen	24	61	4	0
Barren	126	1,327	24	1
Ohio	109	8,260	18	0
Daviess	18	278	7	0
Hancock	1	0	1	0
Cumberland-Monroe	15	870	3	0
Clinton	6	151	2	0
Butler	1	0	1	0
Adair	1	0	1	0
Edmonson	1	10	0	0
Wayne	21	59	14	0
Lee-Owsley	11	227	0	1
Estill	50	150	6	0
Morgan	5	15	0	0
Wolfe	6	9	2	0
Lawrence-Johnson	7	42	1	1
Johnson-Magoffin	41	621	3	0
Floyd-Knott	12	0	0	12
Elliott	2	20	0	0
Knox	2	0	1	1
Menifee	2	3	0	1
Carter	3	8	0	0
McCreary	2	8	1	0
Bracken	1	5	0	0
Total	525	12,453	108	18

Tennessee

The wells completed the first six months of 1927 in the Tennessee Field were by months as follows:

Month—	Comp.	Prod.	Dry	Gas
February	2	85	0	0
March	4	435	0	0
April	10	780	1	0
May	4	455	0	0
June	3	450	0	0
First half 1927	23	2,205	1	0
First half 1926	18	1,855	7	1
Difference	5	350	6	1

The above wells were distributed among the various counties as follows:

County—	Comp.	Prod.	Dry
Clay	13	995	0
Jackson	6	1,075	1
Pickett	3	85	0
Putnam	1	50	0
Total	23	2,205	1

Mississippi

Three dry holes were completed in the Mississippi Field during the first half of 1927, as follows: During April dry holes were completed in Copiah and Tishomingo Counties and in May a dry hole was found in Monroe County.

Florida

A dry hole reported from Glades County, Florida, the only one for the first half of 1927.

Pipe Line Runs in Kentucky

The three major pipe lines comprising the Cumberland Pipe Line Corp., the Illinois Pipe Line Co. and the Paragon Development Co., which makes monthly statements of oil handled by them from the wells of Kentucky through their gathering and trunk lines, report that for the first six months of 1927 the total runs of the three companies amounted to 2,517,482.90 bbls. In the eastern division from January 1 to July 2, the Cumberland Pipe Line ran through its lines 1,576,812.36 bbls., while in the western division the Illinois Pipe Line handled 773,034.25 bbls., and the Paragon Development Co. 167,636.29 bbls. The Stoll Oil Refining Co. also runs oil in the Barren County Field, the six months total running close around 80,000 bbls., which are not included in the grand total of Kentucky.

The runs of the Cumberland Pipe Line are given by months as follows:

Month—	Runs bbls.
January	244,358.85
February	255,575.94
March	244,955.56

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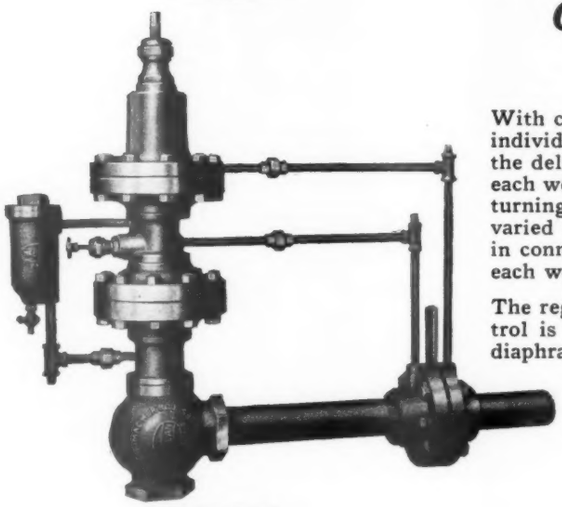

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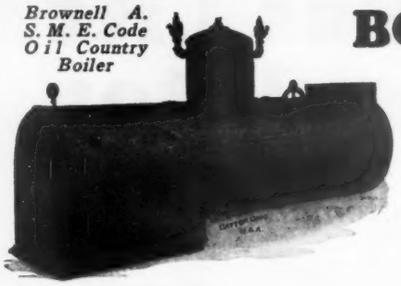

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April	308,003.49
May	242,551.49
June	281,367.03
Total six months 1927	1,576,812.36
First six months 1926	1,564,020.43
Difference	12,791.93

In the western division comprising Warren, Allen, Simpson, Logan, Ohio, Daviess, Hancock and Hopkins Counties, the runs by the Illinois Pipe Line Co. were by months as follows:

Month—	Runs bbls.
January	92,722.21
Fe ruary	98,497.45
March	122,660.02
April	141,253.95
May	155,538.50
June	162,362.12
Total six months	773,034.25

In the western division the runs of the Paragon Development Co. from Barren County, also from Cumberland-Monroe-Clinton Counties, Kentucky, were by months as follows:

Barren County

Month—	Runs bbls.
January	14,587.16
February	14,114.10
March	16,335.43
April	17,765.76
May	18,685.15
June	18,520.18
Total six months	100,007.78

Cumberland-Monroe-Clinton Counties

Month—	Runs bbls.
January	13,515.74
February	13,288.35
March	13,657.62
April	9,083.92
May	9,597.12
June	8,485.76
Total six months	67,628.51

Tennessee Production

The runs of oil from Clay and Pickett Counties, Tennessee, for the first half of 1927 totaled 14,819.76 bbls., by months as follows:

Clay County

Month—	Runs bbls.
January	2,929.93
February	1,280.18
March	1,998.51
April	1,592.76
May	2,714.86
June	2,021.63
Total six months	12,537.87

Pickett County

Month—	Runs bbls.
January	563.70
February	404.62
March	3?9.82
April	405.21
May	548.54
Total six months	2,281.89

Total Tennessee Runs

Month—	Runs bbls.
January	2,929.93
February	1,843.88
March	2,403.13
April	1,952.58
May	3,120.07
June	2,570.17
Total six months	14,819.76

NEW GAS FIELDS IN SOUTHWEST TEXAS

(Continued from Page 124)

veracity. There are now being completed some good gas wells, both on the north side in Nueces County. Houston Gulf Gas Co. is extending its pipe line from the Refugio gas field south to this new gas field. Forty-five miles farther south at Kingsville the Humble Oil & Refining Co. has been getting some wells. It has four that were completed eight months ago and three are flowing a total of 335 bbls. and one pumping 40 bbls., making a total for the four 375 bbls. daily. That field has furnished a lot of gas and a lot of oil but it is still new and its potentialities unknown, so the field is still being wildcatted to an extent. It is in a stretch of country 65 miles long from the Refugio gas field on the northeast to the Kingsville Field on the southwest and under conditions that make it possible for them to all be on the same general structure. The last half of 1927 will see more wildcatting away from the proven fields but by 1928 that wildcatting will probably get under good headway.

Laredo May Wait Until 1928

Another area that may not see much wildcatting during the last half of 1927 due to general conditions but which is held in mind by oil men for drilling later is the Laredo territory where there have been findings here and there that indicate geological conditions not known of before, and which are beckoning the oil man to drill deep. The deep play will be all through the Laredo territory. So far as that is concerned the strong talk among oil men in southwest Texas at this time is deeper drilling.

Another play a little to one side is the Owens & Caldwell well in northwestern Val Verde County which is so close to the Yates Pool as to be classed almost with west Texas. At 2,521 feet it had 4,000,000 feet of gas as this was being written and was preparing to test. It is on the north side of the Balcones fault by many miles. It makes Val Verde County look much better than it did but the well is too new to know much about it yet.

All of the lower gulf coast territory from Matagorda Bay south to Brownsville, a territory on which there is very little surface geology; the whole stretch of the Balcones fault from Maverick County on the southwest to Mexia on the northeast; the Reynosa Escarpment from the Rio Grande in Starr County north through the Mirando Field and diagonally across Duval County in a northeastern direction up through Live Oak and Karnes, are the three general areas that will continue to attract most of the wildcat play in southwest Texas.

SOUTHWEST TEXAS

Completions by counties, first six months of 1927:

County—	Comp.	Prod.	Dry	Gas
Atascosa	6	49	..	..
Bastrop	5	....	5	..
Bexar	26	184	7	2
Brooks	3	....	3	..
Caldwell	36	1,532	8	1
Duval	65	55	28	35
DeWitt	3	....	3	..
Fayette	1	....	1	..
Gonzales	7	....	7	..
Guadalupe	9	169	4	..
Goliad	6	....	6	..
Jim Hogg	60	1,625	21	13
Hidalgo	1	....	1	..
Karnes	2	....	2	..
Kleberg	6	537	4	1
Kimble	1	....	1	..
Live Oak	9	....	3	6
Le Salle	1	....	1	..
Lavaca	1	....	1	..
Lee	1	....	1	..
Milam	77	1,635	16	..
Medina	41	8	25	14
Maverick	2	....	2	..
McMullen	4	8	3	..
Nueces	3	....	..	3
Refugio	18	....	1	17
Starr	10	....	10	..
San Patricio	7	....	4	3
San Saba	1	....	1	..
Travis	1	....	1	..
Victoria	1	....	1	..
Webb	64	1,118	35	11
Williamson	4	....	4	..
Wilson	1	....	1	..
Zapata	44	135	7	4
First 6 mo. 1927	519	7,075	222	109
First 6 mo. 1926	243	38,721	33	46
Difference	276	31,646	189	63

Completions by months:

January	63	2,309	27	13
February	89	1,875	27	35
March	87	902	36	22
April	117	1,111	55	20
May	90	739	44	17
June	53	139	33	12
Totals	519	7,075	222	109

GULF COAST DEEP SANDS OF BIG YIELD

(Continued from Page 123)

Valley Oil Co. are doing the development work jointly. A test in June bailed salt water at 3,362 feet and another hole is now drilling below 4,000 feet.

The Sun Co. has kept persistently at work trying to find production on the northeast flank of the Boling Dome. The Gulf Production has been doing the same at Long Point Dome in Fort Bend County.

The Union Sulphur Co. has suspended operations around the Moss Bluff Dome in Liberty County, 10 miles southeast of the South Liberty Pool. Cap rock was found last November, but a test drilled to 5,015 feet 2½ miles southwest failed to find dome formation.

The Hawkinsville Dome in Matagorda County and the Fannette Dome in Jefferson County, are two spots where money has been liberally expanded by the Gulf Production Co. in trying to develop oil pools, but without success at this writing. However, they are by no means condemned, sands having been found in deep horizons that give promise of producers to come. The Humble Oil & Refining Co. is making another attempt to find production around the old Hockley Dome in the northwestern part of Harris County. Wildcatting around that dome dates back 20 years.

The Stratton Ridge Dome in Brazoria County, southeast of Angleton, is again in the limelight. The Associated Oil Co.'s No. 1 Seaburn there is fishing, after drilling into 18 feet of sand around

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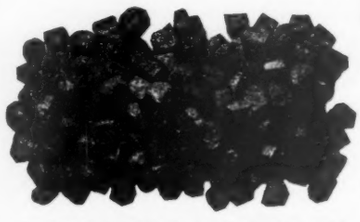

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4,100 feet and the Pure Oil-Humphreys Corp.'s joint No. 1 Armstrong is setting a string of 6⅝-inch casing to test 15 feet of sand about 4,200 feet. These are on the east and northeast flanks of the salt mass. The Stratton Ridge dome is another prospect that looks back upon nearly 20 years of wildcatting. Some small wells were found on the northeast about 10 years ago.

Geophysical explorations in the Coastal counties are constant and have been extended inland, all the major corporations having crews at work. Territory once explored is being gone over again by other companies. Individuals of means are making use of geophysical methods in the hope of turning up prospective acreage to be held in reserve until conditions improve. The recent geophysical discoveries mentioned in South Louisiana have added, it is estimated, 35 per cent to the potential reserve, covering a 70-mile circle.

Although there is no way of determining accurately, it is probable that the same percentage has been added in Coastal Texas.

Deep Wells Drilled

The deepest test drilled in the six months under review was the Gulf Production Co.'s No. 3 Jack & Duff in the deep sand section at Spindletop. The bit was sent to 6,225 feet without results. The next deepest was J. O. Davis' No. 1 Gladys, west of production there, abandoned in February. The Yount Lee Oil Co. started what was proposed to be a 7,000 or 7,500-foot test, but quit around 5,700 feet.

The Gulf company abandoned No. 8 Weed at 5,475 feet.

In the Orange Pool, the Texhoma Oil Co.'s No. 13 Chesson was drilled to 5,625 feet and abandoned in salt water. The Atlantic Oil Producing Co. drilled a hole to 5,740 feet on the north side of the Humble Pool. The Texas Company made a deep test on the east side of the old Batson Pool and the Gulf Production made another on the west side, both being failures. The effort to find deep sands outside of the shallow radius of that pool will be continued during the next half of the year.

Deep tests outside of the pools proper include two by the Gulf Production Co. off the Fannette Dome in Jefferson County. Its No. 3 Bordages got salt water at 5,329 feet and is now sidetracking. No. 9 Thomas quit at 4,891 feet. The same company abandoned No. 8 Craig, off the Hawkinsville Dome in Matagorda County, at 5,092 feet.

The Yount Lee Oil Co. drilled No. 6 School lands off the Hackberry Island Dome in Cameron Parish, Louisiana, to 5,312 feet before giving up. The Texas Company quit No. 2 Guillory, Pine Prairie Dome, Evangeline Parish, Louisiana, at 4,830 feet.

Attempts by The Texas Company and the Sun Oil Co. to find oil on the northeast flank of the Boling Dome in Wharton County, have been futile to date. Both companies carried the campaign across the Colorado River over into Fort Bend County. The Texas Company has abandoned the effort for the present, but the Sun Oil Co. is drilling one test. The Texas Company is wildcatting in the vicinity of Pledger.

GULF COAST
Summary of Field Operations First Six Months 1927

District—	Comp.	Prod.	Dry	Gas
Boling	7	710	1	0
Batson	24	458	10	0
Blue Ridge	32	16,965	8	0
Big Creek	16	17,700	4	0
Barber Hill	8	4,826	1	0
Edgerly (La.)	7	1,945	2	0
Goose Creek	30	1,965	10	0
Humble	15	585	9	0
Hull	49	21,392	10	0
High Island	8	1,400	6	0
Jennings (La.)	15	935	8	0
Lockport (La.)	22	21,300	3	0
Markham	11	1,045	3	1
Nash	3	1,050	0	0
Orange	33	7,695	7	0
Orchard	1	2,300	0	0
Pierce Junction	46	38,035	6	3
Spindletop	98	156,680	29	0
Saratoga	8	34	3	0
Sour Lake	23	4,760	5	0
South Liberty	20	3,150	7	0
Stark (La.)	2	4,000	0	0
Vinton (La.)	29	2,875	7	0
West Columbia	4	3,010	1	0
Miscellaneous	88	1,630	79	5
Totals	599	316,445	222	9
Same period 1926	569	191,264	206	3
	30	125,181	16	6

GULF COAST
Operations for First Six Months of 1927 by Months

Month—	Comp.	Prod.	Dry	Gas
BOLING				
January	0	0	0	0
February	1	0	1	0
March	0	0	0	0
April	2	610	0	0
May	1	0	1	0
June	3	100	2	0
Totals	7	710	4	0
BATSON				
January	6	138	2	0
February	4	250	1	0
March	5	25	3	0
April	6	40	2	0
May	2	0	2	0
June	1	5	0	0
Totals	24	458	10	0
BLUE RIDGE				
January	4	2,540	0	0
February	8	5,425	2	0
March	4	1,100	1	0
April	5	1,975	1	0
May	9	4,725	3	0
June	2	1,200	1	0
Totals	32	16,965	8	0
BIG CREEK				
January	1	0	1	0
February	3	4,850	0	0
March	2	900	0	0
April	2	6,900	0	0
May	3	4,700	1	0
June	5	350	2	0
Totals	16	17,700	4	0
BARBER HILL				
January	2	1,526	0	0
February	1	300	0	0
March	2	1,600	0	0
April	2	1,200	0	0
May	1	0	1	0
June	1	200	0	0
Totals	8	4,826	1	0
EDGERLY				
January	0	0	0	0
February	2	320	0	0
March	0	0	0	0
April	1	100	0	0
May	1	1,500	0	0
June	3	25	2	0
Totals	7	1,945	2	0
GOOSE CREEK				
January	4	195	1	0
February	4	650	0	0
March	9	570	4	0
April	3	80	1	0
May	5	250	3	0
June	5	220	1	0
Totals	30	1,965	10	0
HUMBLE				
January	2	0	2	0
February	6	310	2	0
March	3	0	3	0
April	2	25	0	0
May	1	0	1	0
June	1	250	0	0
Totals	15	585	9	0
HULL				
January	6	1,567	1	0
February	13	3,455	4	0
March	9	775	3	0
April	8	7,985	0	0
May	7	3,335	1	0
June	6	4,275	1	0
Totals	49	21,392	10	0
HIGH ISLAND				
January	2	1,000	1	0
February	1	0	1	0
March	0	0	0	0
April	4	400	3	0
May	1	0	1	0
June	0	0	0	0
Totals	8	1,400	6	0
JENNINGS, LA.				
January	2	250	0	0
February	2	10	1	0
March	0	0	0	0
April	1	0	1	0
May	6	75	4	0
June	4	600	2	0
Totals	15	935	8	0
LOCKPORT, LA.				
January	3	3,700	0	0
February	3	6,500	0	0
March	0	0	0	0
April	6	7,250	0	0
May	3	400	1	0
June	7	3,450	2	0
Totals	22	21,300	3	0
MARKHAM				
January	0	0	0	0
February	1	200	0	0
March	3	300	1	0
April	1	125	0	0
May	4	360	2	0
June	2	60	0	1
Totals	11	1,045	3	1
NASH				
January	1	250	0	0
February	0	0	0	0
March	0	0	0	0
April	1	350	0	0
May	0	0	0	0
June	1	450	0	0
Totals	3	1,050	0	0
ORANGE				
January	4	305	1	0
February	8	1,000	2	0
March	5	410	1	0
April	8	2,620	1	0
May	5	2,815	1	0
June	3	545	1	0
Totals	33	7,695	7	0
ORCHARD				
May	1	2,300	0	0
Totals	1	2,300	0	0
PIERCE JUNCTION				
January	12	11,285	1	0
February	5	1,185	1	0
March	7	8,540	0	1
April	8	6,425	1	0

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In the July 7 issue of The Oil and Gas Journal, the following advertisement appeared in the Classified Section:

"WEST TEXAS"

PECOS COUNTY—4 sec., lease 10 yr., NE part of county, $1.50 bonus, rentals 50 cents. 2 sec. W part of county, 10 yr., $1, 50 cents. One block of 10 lots, full sized, Fort Stockton. For the entire lot, $400, cash or your terms at 8 per cent.

720 A. Block 12, adjoins Humble, Roxana & Std. of Calif. about 2 miles from Pecos river and 20 N. E. Yates Field. 10 yr. lease, $7.50 with 50 cents rentals.

Brewster County. I have a number of scattered sections at $2.50 to $4 fee, unleased in the play. Will sell one or more. Also 16-640A. ranch, house, well, springs, creek; excellent hunting. $2.25 per acre. $10,000 will handle; unleased for oil. The cheapest buy in all West Texas. 200 A. fee, unleased $2.75 per acre.

Presidio County. 9,500 A. 10 yr. lease, 20 cents bonus, 10 cents rentals. 2 sections, fee, $2.50.

Terrell County. 7 sections, fee, leased for oil to expire July, 1928. $2.25 per A.

Oil operators—I have 60,000 A. solid body, NE, Brewster County, 10 yr. paid up lease, no drilling obligation. Adjoins large company holdings. Good geology. Price $1.25, will sell 15,000 A. and up.

J. S. JONES
First National Bank Bldg.,
Fort Stockton, Tex.

A few days after its appearance, Mr. J. S. Jones sent us a second classified ad and said: "I don't mind telling you that you have a great journal and that advertising results are satisfactory."

Mr. Jones' ad got results because of two factors. In the first place he chose a medium which reaches every oil man who would likely be interested in his leases and, in the second place, he made his ad comprehensive enough to interest readers in his land. Then too, he listed a wide enough variety of leases so that if one failed to interest the reader, another would.

Our classified ads can assist you in selling your leases, royalties and production. Send us your ad today, describing your holdings in detail. We can obtain for you the same "satisfactory results" of which Mr. Jones speaks.

Classified Wants Department

May	6	5,850	2	0
June	8	4,750	1	2
Totals	46	38,035	6	3
SPINDLETOP				
January	18	36,400	2	0
February	24	29,985	13	0
March	12	25,160	1	0
April	13	19,135	5	0
May	16	23,300	5	0
June	15	22,700	3	0
Totals	98	156,680	29	0
SARATOGA				
January	0	0	0	0
February	1	0	1	0
March	3	14	1	0
April	2	5	1	0
May	2	15	0	0
June	0	0	0	0
Totals	8	34	3	0
SOUR LAKE				
January	5	1,800	0	0
February	7	2,275	2	0
March	4	300	0	0
April	4	375	1	0
May	3	10	2	0
June	0	0	0	0
Totals	23	4,760	5	0
SOUTH LIBERTY				
January	4	1,175	1	0
February	4	985	0	0
March	1	100	0	0
April	5	710	3	0
May	3	170	1	0
June	3	10	2	0
Totals	20	3,150	7	0
STARK, LA.				
January	1	2,500	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	1	1,500	0	0
Totals	2	4,000	0	0
VINTON, LA.				
January	3	325	0	0
February	6	500	2	0
March	7	210	3	0
April	6	1,500	2	0
May	4	240	0	0
June	3	95	0	0
Totals	29	2,870	7	0
WEST COLUMBIA				
January	2	3,000	0	0
February	0	0	0	0
March	1	10	0	0
April	1	0	1	0
May	0	0	0	0
June	0	0	0	0
Totals	4	3,010	1	0
MISCELLANEOUS				
January	9	50	7	1
February	13	0	12	1
March	20	0	18	2
April	15	80	13	0
May	16	1,500	15	0
June	15	0	15	1
Totals	8	1,630	79	5

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

Texas Panhandle First Reports

Swisher County

The Exploration Co.'s No. 1 W. C. Benwiddle, 1,320 feet south and 150 feet west of NE cor. of Section 7, Block 11-M, A. B. & M. Survey.

North Central and West Texas First Reports

Archer County

Bridwell & Heydrick and others' No. 1 H. S. Griffin, 3,120 feet south and 150 feet east of NW cor. of Section 13, Palo Pinto County school land, A-339, being 150 feet south and east of NW cor. of their lease. C. P. Burton & Barkley Meadows' No. 1 L. F. Wilson, 150 feet north and east of SW cor. of Lot 260, Geraldine Subdivision. L. P. Hammond & Staley-Wynne's No. 4 Dr. M. K. Hughes, 600 feet north and 150 feet east of SW cor. SE Section 16, League e, Denton County School Land, A-117. G. Hart and others' No. 1 W. R. Brown, 915 feet north and 1,170 feet east of SW cor. of Section 106, A. T. N. C. L. Survey. Kruger & Staley's No. 5 J. H. Turbeville, 150 feet south and 450 feet west of NE cor. of Robert Carson Survey, No. 146. C. B. Long's No. 1 W. L. Andrews, 1,160 feet south and 150 feet east of NW cor. of Robert Carson Survey, No. 136. Jack Rayzor and Sinclair Oil & Gas Co.'s No. 1 L. F. Wilson, 525 feet south and 640 feet east of NW cor. of Lot 2, Section 71, A. T. N. C. L. Survey. United Producers & Petroleum Producers Co.'s No. 4 J. H. Turbeville-B, 150 feet north and 750 feet west of SE cor. of their 50-acre lease out of Section 124, Club Ranch Subdivision. Ginsberg and others' No. 1 J. R. Carey, 150 feet south and west of NE cor. of south 100 acres of west 180 acres of Section 1,855, T. E. & L. Survey.

Brown County

A. H. Bowers and others' No. 3 J. T. Carson, Sr., 150 feet north and 300 feet east of SE cor. of Section 6, E. T. R. R. Survey. Forest Oil Co.'s No. 5 M. L. Smith, 150 feet north and 2,830 feet east of SW cor. of M. L. Smith's 320-acre tract out of S. A. and M. G. Survey, No. 1, A-849. Phillips Petroleum Co.'s No. 7 Roy Hickman, 750 feet north and 150 feet east of SW cor. of their 80-acre lease out of Thomas Benson Survey, No. 783. Selby Oil & Gas Co.'s No. 5 H. J. Ellis, 150 feet south and 1,102 feet east of NW cor. of H. J. Ellis' 130-acre tract out of S. A. & M. G. Survey, No. 3, A-850; No. 7, 950 feet south and 150 feet east of NW cor. of H. J. Ellis' same 130-acre tract; No. 9, 150 feet south and 1,455 feet east of NW cor. of H. J. Ellis' same 130-acre tract. C. W. Creder's No. 1 Arch Ratliff, 450 feet NE of SW line and 450 feet NW of SE line of Arch Ratliff's 110-acre tract out of Thomas H. Roberts Survey, No. 803, A-333. Cranfill & Reynolds' No. 2 Mrs. I. B. Short, 1,200 feet south and 900 feet NW of Mrs. I. B. Short's 200-acre tract out of Counsel E. Jackson Survey, No. 108, A-1,151. Humphrey Brothers' No. 1 T. J. Beasley, 150 feet north and 1,255 feet east of SW cor. of T. J. Beasley's 425-acre tract out of H. & T. C. Survey, No. 35, A-1,886.

Clay County

Allday Oil Corp. and others' No. 1 S. Stine and others, 1,365 feet south and 1,470 feet east of NW cor. of Section 8, Parker County school land, A-374. Lone Star Gas Co.'s No. 19 J. D. Stine estate, 500 feet south and 1,000 feet west of NE cor. of Section 12, same school land.

Coleman County

Roden & Green's No. 1 J. C. C. Martin, 150 feet south and east of NW cor. of Hugh Frazier Survey, No. 244.

Cooke County

Camp-Heydrick and Oil Operators Trust Co.'s No. 8 M. J. Kleiss, 750 feet south and 150 feet east of NW cor. of M. J. Kleiss' 115-acre tract out of J. W. Littleton Survey, A-585. Fain-McGaha Oil Corp.'s No. 1 J. C. Embry, 2,790 feet SW of NE line and 150 feet SW of NW line of John English Survey, A-345. Oil Operators Trust Co.'s No. 6 M. J. Kleiss, 150 feet south and 140 feet east of NW cor. of Block 60, town of Muenster. Staus-Allen and others' No. 1 Charles Knauf, 150 feet north and east of SW cor. of Block 56, same town. The Texas Company's No. 3 H. L. Dennis, 150 feet north and 825 feet west of SE cor. of south 50 acres of north 100 acres of T. J. Hutchinson Survey, A-484.

Crane County

Landreth Production Corp.'s No. 13 State land, 200 feet south and 630 feet west of NE cor. of Section 46, Block 30, University Land Survey, and located in Section 201, Block F, C. C. S. D. & R. G. N. G. Survey.

Crockett County

P. H. Williams' No. 2 L. P. Powell, 150 feet south and 660 feet west of NE cor. of Section 53, Block BB, G. C. & S. F. Survey.

Eastland County

J. B. Lewis and others' No. 3 B. L. Hargus, 450 feet south and 150 feet west of NE cor. of B. L. Hargus' 85-acre tract out of Section 3, Block 6, E. T. R. R. Survey. The Texas Company's No. 15 L. A. Hightower, 680 feet north and 150 feet west of SE cor. of Lot 1, Van Horman Survey; No. 16, 980 feet north and 150 feet west of SE cor. of Lot 1, same survey.

Hale County

The Exploration Co.'s No. 1 The Exploration Co., center of SE Section 19, Block 4-S, D. & S. E. R. R. Survey.

Howard County

George A. Henshaw and others' No. 1 W. R. Settles, 330 feet north and 1,650

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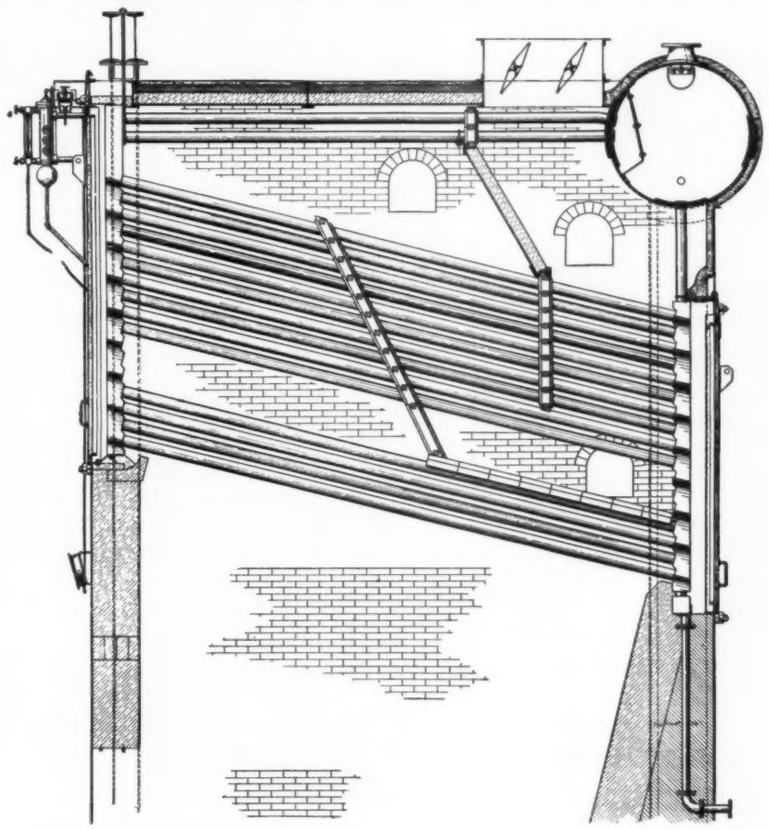

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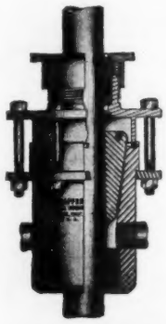

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The Oil and Gas Journal
Tulsa, Okla.

feet east of SW cor. of Section 135, Block 29, W. & N. W. Survey. Magnolia Petroleum Co.'s No. 5 Kelly Chalk, 990 feet south and 2,310 feet east of NW cor. of Section 124, Block 29, same survey; No. 6 Mary Chalk, 1,650 feet south and 2,310 feet west of NE cor. of Section 124, Block 29, same survey; No. 7, 990 feet south and 2,310 feet west of NE cor. of Section 124, Block 29, same survey. Marland Oil Co.'s No. 1 H. R. Clay-E. 330 feet south and 990 feet west of NE cor. SE Section 138, Block 29, same survey. Texon Oil & Land Co. and Marland Oil Co.'s No. 1 Mrs. W. Connely, 330 feet south and west of NE cor. of Section 15, Block 33, Tp-1-S, T. & R. Survey; No. 1 Mable O. Quinn, 330 feet north and east of SW cor. of Section 36, Block 34, Tp-1-S, same survey; No. 2 W. R. Settles, 200 feet south and east of NW cor. of Section 159, Block 29, W. & N. W. Survey.

Jack County

R. M. Wynne & Millett's No. 2 Brentmore, Inc., 1,350 feet north and 1,000 feet west of the most northerly SE cor. of J. W. Williams Survey, No. 3, A-377, being 150 feet south and 450 feet east of the most northerly NW cor. of their 40-acre lease.

Jones County

Stebbins Oil Co.'s No. 1 R. R. Scott, center of the south half of west 325 acres of Section 38, Orphan Asylum land.

Montague County

Humble Oil & Refining Co.'s No. 1 R. W. Cunningham and others, 150 feet south and 450 feet west of NE cor. of L. B. Norton Survey, A-574, being 150 feet south and west of NE cor. of their 60-acre lease.

Palo Pinto County

T. G. Shaw and others' No. 1 F. R. Gilbert, 1,300 feet north and 300 feet east of SW cor. of Henry Blood Survey, No. 116, A-687. Burton-McKee Oil Corp.'s No. 5 Strawn Coal Co., 7,650 feet north and 3,900 feet west of SE cor. of Abner Ashworth Survey, A-1. McGinley and others' No. 1 T. H. Sheppard, 150 feet north and west of SE cor. Section 87, Block 4, T. & P. Survey.

Pecos County

Mid-Kansas Oil & Gas Co.'s No. 3 I. G. Yates-B, 150 feet north and west of SE cor. of Section 61, Block 1, I. & G. N. Survey.

Shackelford County

Albany Oil Co.'s No. 6 W. D. Reynolds, 505 feet south and 490 feet west of NE cor. NE, Section 24, Block 11, T. & P. Survey. H. Gwinnup and others' No. 1 W. H. Green, 660 feet south and west of NE cor. NE NW, Section 69, Block 12, same survey. Roeser & Pendleton's No. 16 R. J. Moberly-A, 870 feet north and 495 feet east of SW cor. of Section 13, Block 11, same survey. J. G. Terry and others' No. 1 T. B. Hadley, 150 feet north and east of SW cor. of the E-half of Section 65, Lunatic Asylum Land. White Eagle Oil & Refining Co.'s No. 2 L. G. Gorsuch, 600 feet south and 720 feet west of NE cor. of Section 81, Block 13, T. & P. Survey.

Stephens County

Pace and Ward's No. 1 L. A. Sloan, 500 feet north and 100 feet west of SE cor. of Lot 17, Joseph Yeaman Survey. Burt Christman and others' No. 1 T. Downing, 600 feet north and west of SE cor. NW, Section 51, Block 5, T. & P. Survey. P. Hoffman's No. 1 J. T. Ledbetter, 300 feet south and west of NE cor. of J. T. Ledbetter's 40-acre tract out of Section 53, Block 4, T. & P. Survey.

Wichita County

W. M. Moore's No. 1 R. L. Cruduy, 150 feet east of NW cor. and located on the north line of Section 19, League 4, Denton County School Land, A-417. Bailey-Damuth Drilling Co.'s No. 1 G. W. Lewis and others' 150 feet north and west of SE cor. of west 20 acres of east 45 acres of south 85 acres of Section 20, Kemp's Wichita Valley Lands. C. H. Clark and others' No. 1 W. T. Waggoner, 150 feet south and west of NE cor. of Section 28, Block 5, H. & T. C. Survey. Empire Gas & Fuel Co.'s No. 2 Kemp & Kempner, 450 feet north and 150 feet west of SE cor. of SW, Section 57, Kemp's Wichita Valley Lands. Mrs. R. A. Lanning and others' No. 6 S. M. McCarty, Lease 1, 150 feet north and west of SE cor. of west 40 acres of east 80 acres of north 100 acres of S. M. McCarty's 230-acre tract out of Sam O. Fowler Survey, A-78, No. 7, 150 feet north and 400 feet east of SW cor. of west 40 acres of east 80 acres of north 100 acres of the same 230-acre tract; No. 1 S. M. McCarty, Lease 2, 450 feet north and 500 feet east of SW cor. of west 41 acres of east 80 acres of north 100 acres of S. M. McCarty's same 230-acre tract; No. 2, 300 feet north and 800 feet east of SW cor. of west 40 acres of east 80 acres of north 100 acres of the same 230-acre tract. Panhandle Refining Co.'s No. 4 E Daume, 150 feet south and 450 feet west of NE cor. of north 25 acres of west 110 acres of east 220 acres of the N-half of Section 1, S. P. R. R. Survey, A-266; No. 5, 150 feet south and 750 feet west of NE cor. of their 25-acre lease out of the N-half of the same survey.

Wilbarger County

Consolidated Oil Co. and others' No. 1 W. T. Waggoner, 150 feet north and west of SE cor. of Section 2, Block 5, H. & T. C. Survey. Consolidated Oil Co. & J. S. Cosden's No. 7 W. T. Waggoner, 300 feet south and 750 feet west of NE cor. NE NW, 57, Block 4, same survey. The Texas Company's No. 1 W. T. Waggoner-B, 1,125 feet south and 210 feet east of NW cor. of Section 17, Block 4, same survey.

Winkler County

Murchison Oil Co. and others' No. 1 Grisham-Hunter, 2,310 feet north and 330 feet east of SW cor. of Section 35, Block 5-B, School Land.

Young County

Christie & Maddox's No. 1 M. H. Honkins, 150 feet south and 1,350 feet east of NW cor. of Section 200, T. E. & L. Survey. Gwynn, Boyd & Roxana Petroleum Corp.'s No. 1 J. McCluer, 150 feet south and 890 feet west of NE cor. of J. McCluer's 20-acre tract out of Section 221, same survey. Holbrook & Wood's No. 1 G. P. Stewart, 600 feet south and 150 feet west of NE cor. of Section 1,492, same survey. Minnich and others' No. 1 W. G. Alexander, 550 feet north and 150 feet west of SE cor. of Section 81, same survey. Young, Carey & Phader's No. 1 W. W. Cope, 150 feet south and west of NE cor. of north 20 acres of west 50 acres of south 165 acres of Section 1,475, same survey.

Corrected Locations

In Archer County, Barbee and others' No. 2 R. Campbell, 150 feet south and east of NW cor. of Section 1, G. P. Meade Subdivision of L. M. Pasture.

In King County, the California Co.'s No. 1 R. B. Masterson, 330 feet north and west of SE cor. NE, Section 167, Block A, R. M. Thompson Survey.

In Young County, Roberts Oil Corp.'s No. 1 C. E. Graham-B, 450 feet south and 1,010 feet east of NW cor. of north 100 acres of south 335 acres of C. E. Graham's 460-acre tract out of Section 3,401, T. E. & L. Survey.

Crane County

Tidal Oil Co.'s No. 3 University "I", 330 feet from the north and west lines of SE, Section 47, Block 30. Simms and Atlantic Oil Producing Co.'s No. 7 University-C, 1,650 feet from the north line and 330 feet from the east line of the E-half NW, Section 47, Block 30. Same operator's No. 8 University-C, 330 feet from the south and east lines of the E-half of NW, Section 47, Block 30. Prairie Oil & Gas Co.'s No. 3 State Lasseter, 1,650 feet from the north line and 330 feet from the west line of NE, Section 47, Block 30. Prairie Co.'s No. 4 State Lasseter, 330 feet from the south and west lines of NE, Section 47, Block 30. Carl Cromwell and associates' No. 10 University, 330 feet from the north and east lines of SW, Section 47, Block 30.

Crockett County

McMannon Oil Co.'s No. 1 J. B. Blakeney, C SW, Section 26, Block Q-3, T. C. R. R. Survey. Taylor Link Oil Co.'s No. 1 L. P. Powell, 150 feet from the north and west lines of Section 52, Block BB, G. C. S. F. R. R. Survey.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for May

Company—	Month	Daily Av.
*Prairie P. L. Co.	4,526,000	146,000
Gulf P. L. Co.	1,634,016	52,710
Texas P. L. Co.	982,709	31,700
Magnolia Pet. Co.	1,636,037	52,775
Empire P. L. Co.	1,123,824	36,252
Cosden P. L. Co.	1,091,049	35,195
Sinclair P. L. Co.	2,642,378	85,238
Other lines	13,299,000	429,000
Total May	26,935,013	868,870
Total April	25,797,609	859,921
Difference	1,137,404	8,949
Shipments		
†Prairie P. L. Co.	5,641,515	181,984
Gulf P. L. Co.	1,132,912	36,546
Texas P. L. Co.	755,262	24,363
Magnolia Pet. Co.	1,309,388	42,238
Empire P. L. Co.	1,114,967	35,967
Cosden P. L. Co.	847,956	27,353
†Sinclair P. L. Co.	2,685,274	86,622
Other lines	12,400,000	400,000
Total May	26,887,274	835,073
Total April	24,880,289	802,589
Difference	1,006,985	32,484
Stocks		
*Prairie Oil & Gas Co.		30,360,000
*Prairie Pipe Line Co.		2,000,000
Gypsy P. L. and Gypsy Oil Co.		8,760,113
The Texas Company		4,500,997
Magnolia Petroleum Co.		5,130,000
Empire Pipe Line Co.		2,704,070
Cosden Pipe Line Co.		2,807,960
*Sinclair Crude Oil Pur. Co. and Sinclair Oil & Gas Co.		19,500,000
Carter Oil Co.		14,994,803
*Other lines		10,500,000
Total May		101,197,943
Total April		99,083,093
Difference		2,114,850

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming, Texas crude. Note—Stocks do not include approximately 4,000,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 2,600,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINES
Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May, '27	June, '27
Nat. Transit	157,165.84	157,315.01
S. W. Pa. P. L.	90,017.98	93,809.85
Eureka P. L.	392,779.77	390,791.12
Buckeye P. L. (Macksburg)	352,189.09	344,562.31
Buckeye P. L. (Cleve.)	11,455.70	11,529.52
Buckeye P. L. (Lima, etc.)	124,796.30	139,035.28
Indiana P. L.	10,527.86	11,406.99
Cumberland P. L.	256,545.97	250,266.24
N. Y. Transit	23,432.96	24,809.81
Tidewater P. L.	189,601.39	189,396.14
Pure Oil	170,519.75	167,510.92
Emery P. L.	55,212.48	55,995.64
Paragon Dev.	29,001.79	26,923.82
Pittsburgh P. L.	5,562.53	5,710.36
Soil Oil Ref.		13,632.37
Total	1,868,809.41	1,882,695.38
Daily average	60,284.17	62,756.51

Note: Indian Refining Co. also reported other receipts of 369,938.94 bbls. Paragon Refining Co. had other receipts of 172,169.81 bbls. Paragon Development had other receipts of 2,652.29 bbls. Pure Oil had other receipts of 15,161.30 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June.

	May, '27	June, '27
Nat. Transit	231,962.23	307,649.33
S. W. Pa. P. L.	369,312.49	317,891.14
Eureka P. L.	196,684.71	181,937.70
Buckeye P. L. (Macksburg)	168,751.29	165,198.17
Buckeye P. L. (Cleve.)	730.53	971.56
Buckeye P. L. (Lima, etc.)	961,591.53	930,510.48
Indiana P. L.	995,738.41	975,616.39
Cumberland, P. L.	135,591.56	150,959.91
N. Y. Transit	229,615.40	315,171.90
Northern P. L.	194,488.92	187,632.30
Tidewater P. L.	140,789.69	139,216.41
Pure Oil	214,677.25	163,634.33
Emery P. L.	54,063.88	54,410.09
Paragon Ref.	160,374.55	171,015.11
Indian Ref.	401,075.59	394,960.00
Paragon Dev.	30,880.92	29,986.63
Pittsburgh P. L.	5,390.35	6,384.84
Total	4,491,719.30	4,493,146.29
Daily average	144,894.17	149,771.54

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of May and June:

	May, '27	June, '27
Nat. Transit	1,153,962.57	1,150,482.45
S. W. Pa. P. L.	680,944.30	705,827.92
Eureka P. L.	1,540,369.93	1,760,893.31
Buckeye P. L. (Macksburg)	447,695.96	450,027.81
Buckeye P. L. (Cleveland)	52,293.46	38,348.14
Buckeye P. L. (Lima, etc.)	4,198,037.49	4,303,614.65
Indiana P. L.	588,782.56	585,161.78
Cumberland P. L.	620,713.60	581,519.53
Southern P. L.	407,385.13	406,472.60
N. Y. Transit	621,235.51	513,088.14
Northern P. L.	551,236.96	509,881.48
Pure Oil	379,362.15	397,272.76
Emery P. L.	8,061.15	9,961.99
Paragon Ref.	23,688.15	24,515.54
Indian Ref.	74,318.76	45,531.36
Paragon Dev.	6,892.28	6,969.48
Pittsburgh P. L.	4,401.32	4,104.27
Total	11,359,381.28	11,493,673.21
Increase	247,086.45	134,291.93

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of May and June showing the gross stocks of the above fields:

	May, '27	June, '27
Pennsylvania	3,882,764.43	4,097,743.11
Lima	878,323.51	939,796.06
Kentucky	1,204,896.59	1,190,128.89
Mid-Continent	5,339,671.75	5,233,298.86
Illinois	53,725.00	32,706.30
Total	11,359,381.28	11,493,673.21

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
January	62,638	56,831	55,630	56,209
February	68,023	60,606	60,394	61,298
March	68,721	60,575	61,644	63,247
April	71,058	63,062	63,019	60,337
May	63,942	59,217	60,580	60,284
June	63,230	61,270	64,131	62,757
July	64,208	62,639	63,206	.....
August	59,942	59,686	61,815	.....
September	62,930	62,510	64,639	.....
October	64,976	60,995	62,704	.....
November	56,282	59,350	61,774	.....
December	55,814	57,974	58,755	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
January	145,518	157,889	156,056	141,227
February	148,732	160,863	159,488	138,534
March	147,098	154,591	150,239	133,777
April	147,611	151,429	152,372	140,227
May	134,997	146,995	160,998	144,894
June	143,010	149,467	160,257	149,772
July	124,187	161,338	160,945	.....
August	123,120	161,730	151,929	.....
September	127,325	156,719	158,915	.....
October	123,170	145,388	161,132	.....
November	124,400	143,582	152,668	.....
December	151,392	150,162	136,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
January	11,353,276	9,859,170	9,718,003
February	11,192,924	9,579,354	10,119,162
March	11,158,297	9,438,292	10,794,044
April	11,062,082	9,805,851	11,112,296
May	11,207,562	9,531,757	11,359,381
June	11,093,796	9,585,904	11,493,673
July	11,067,463	9,734,687	.....
August	10,974,481	9,668,947	.....
September	10,781,753	9,433,732	.....
October	11,086,850	9,269,806	.....
November	11,068,158	9,257,667	.....
December	10,458,445	9,454,512	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

1926—	Runs	Shipmts.	Stocks
May	2,933.29	2,096.35	13,295.96
June	3,217.62	1,655.15	14,858.43
July	3,025.86	4,075.11	13,809.18
August	2,886.59	2,121.21	14,574.56
September	2,788.18	3,373.06	13,985.68
October	2,991.86	2,307.75	14,671.25
November	2,810.60	1,664.55	15,817.31
December	2,847.52	5,561.11	13,103.72
1927—			
January	2,641.54	1,470.42	14,274.84
February	2,764.30	1,082.82	15,956.32
March	2,587.20	1,878.56	16,664.96
April	2,834.23	1,512.65	17,986.54
May	2,768.47	539.29	20,215.72

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, July 1	2,034,925.20
Runs from wells	611,726.41
Other receipts	295,848.81
Regular deliveries	474,400.44
Other deliveries	504,808.66

The amount of Illinois oil run by the Tide Water Pipe Co. in June was 29,249.44 bbls. and deliveries were 57,817.34 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—	Runs	Deliveries
June	693,102.34	558,054.94
July	713,490.66	490,092.82
August	701,795.92	555,766.59
September	688,798.66	516,083.05
October	681,648.96	531,467.39
November	651,263.38	498,439.37
December	668,909.58	587,947.61
1927—		
January	621,421.03	530,085.98
February	595,831.16	476,950.71
March	727,593.91	554,947.43
April	593,225.97	444,818.49
May	728,759.40	543,192.02
June	640,975.85	532,217.78

Tide Water Pipe Co., Ltd., also delivered in June, 205,879.96 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total		
February	26,214	3,036	32,750	8,571	18,250	88,821	.....	.....	.....	.....	.....		88,821
March	16,616	5,484	56,710	13,871	13,419	106,097	.....	.....	.....	484	.....		106,581
April	12,667	4,367	47,667	15,100	13,300	93,100	.....	.....	.....	.....	.....		93,100
May	10,452	7,645	18,387	9,226	6,226	51,935	.....	.....	.....	.....	.....		51,935

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	
February	12,000	14,429	87,286	5,321	26,714	145,750	4,786	46,786	2,143	3,607	57,322	203,072
March	4,677	13,161	63,484	9,226	26,129	116,677	6,742	36,258	2,419	4,871	50,290	166,967
April	22,700	9,033	62,033	6,067	26,567	126,400	5,067	18,033	.....	.....	23,100	149,500
May	21,032	9,807	93,452	7,774	23,580	155,645	1,807	30,612	1,936	.....	34,355	190,000

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
1926—										
June:	Month	18,269,417	14,073,510	11,782,200	3,346,470	5,064,760	2,206,830	3,427,905	3,365,000	61,546,092
	Daily average	608,981	469,117	392,740	111,549	168,822	73,561	114,597	112,167	2,051,536
July:	Month	18,743,199	14,657,482	13,983,759	3,582,267	5,019,892	2,173,813	3,336,664	3,420,000	64,917,076
	Daily average	604,619	472,822	451,089	115,557	161,932	70,123	107,634	110,323	2,094,099
August:	Month	18,765,080	14,618,236	17,093,586	3,681,436	4,578,191	2,190,739	3,457,697	3,339,500	68,024,466
	Daily average	605,325	471,556	551,406	118,756	157,361	73,896	111,538	107,726	2,194,338
September:	Month	18,104,954	14,466,510	17,580,100	3,450,060	4,603,230	2,079,840	3,141,123	3,330,000	66,756,817
	Daily average	603,498	482,217	586,003	115,002	153,441	69,328	104,704	111,000	2,225,194
October:	Month	18,966,058	15,730,689	19,001,388	3,714,637	4,625,138	2,166,559	3,071,720	3,393,000	70,664,189
	Daily average	611,808	507,119	612,948	119,827	149,198	69,889	99,088	109,613	2,279,490
November:	Month	19,173,128	16,876,950	18,593,160	3,593,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	119,783	143,316	68,497	94,752	107,200	2,354,990
December:	Month	20,276,950	17,882,908	19,753,591	3,654,156	4,266,189	2,018,734	2,658,301	3,313,000	73,823,329
	Daily average	654,096	576,868	637,213	117,876	137,619	65,120	85,752	106,871	2,381,414
1927—										
January:	Month	20,184,872	19,030,745	18,546,990	3,668,323	4,076,469	1,905,570	2,610,303	3,332,500	73,355,773
	Daily average	651,125	613,895	598,290	118,333	131,499	61,471	84,203	107,500	2,366,315
February:	Month	17,982,711	19,752,348	16,483,292	3,349,416	3,574,256	1,784,104	2,386,136	3,007,300	68,319,463
	Daily average	642,240	705,441	588,689	119,622	127,652	63,718	85,183	107,400	2,439,945
March:	Month	19,835,724	22,480,931	18,417,100	3,672,849	3,853,920	1,896,425	2,466,798	3,620,800	76,244,537
	Daily average	639,862	725,191	594,100	118,479	124,320	61,175	79,574	116,800	2,459,501
April:	Month	19,466,087	22,289,160	17,800,740	3,530,490	3,378,240	1,994,730	2,615,770	3,474,000	74,549,217
	Daily average	648,870	742,972	593,358	117,683	112,608	66,491	87,192	115,800	2,484,974
May:	Month	19,506,054	23,239,770	19,479,811	3,683,637	3,493,669	1,935,175	2,742,588	3,467,000	77,547,704
	Daily average	629,238	749,670	628,381	118,827	112,699	62,425	88,471	111,839	2,501,539
Total 12 months		229,274,234	215,089,229	208,515,717	42,927,231	51,133,434	24,399,327	34,766,591	40,283,000	846,388,763

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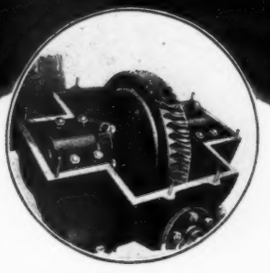

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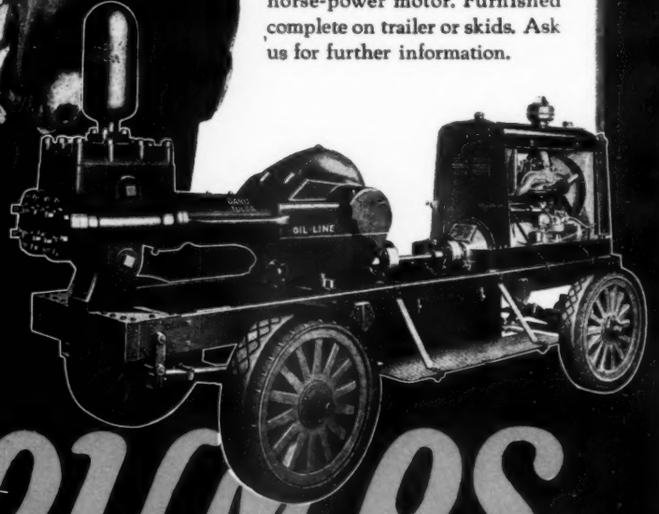

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